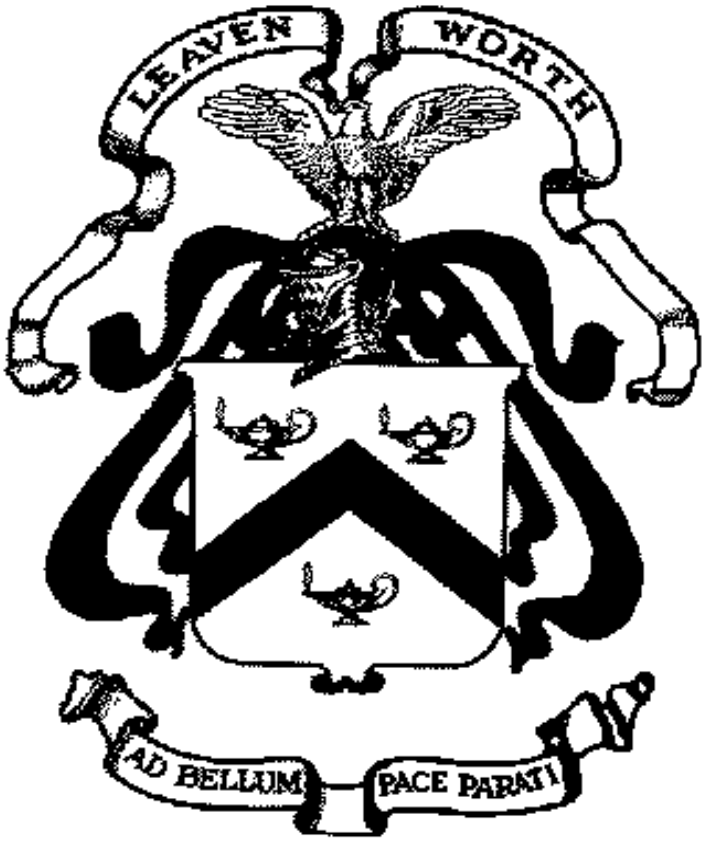
CGSC **ST 63-1**

DIVISION AND CORPS LOGISTICS



U.S. ARMY COMMAND AND GENERAL STAFF COLLEGE

FORT LEAVENWORTH, KANSAS

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DIVISION AND CORPS LOGISTICS

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The terms “he,” “his,” “him,” and “man” include both masculine and feminine genders. Any exception to this will be so noted.

PREFACE

During the last decade, the Army of Excellence (AOE) performed exceptionally well. As the best-trained, best-equipped force in the world, the Army served as one of the major linchpins in our national security strategy, not only by serving as a strong deterrent but also by physically enforcing peace in various trouble spots throughout the world. This Army played an instrumental part in winning the cold war as well as the Gulf war. Even with this success, the Army must not rest on its laurels. It must continue to deter potential adversaries through superior training, organization, equipment, and technological capabilities. If it does not, its adversaries most assuredly will.

The primary focus of this year's Student Text (ST) 63-1 update continues to be on current AOE combat service support (CSS) doctrine from the company through corps levels, but it also addresses Limited Conversion Division XXI impacts on logistics as well as Force XXI logistics changes. These changes and impacts are discussed in more detail throughout chapters 1 and 2.

Unlike the maneuver units' doctrine and organizational structure changes, basic logistics units' doctrine and organizational structures for a Limited Conversion Division XXI remain the same as current AOE logistics doctrine and structures. Although there are a few table of organization and equipment (TOE) changes for certain divisional CSS units, ST 63-1 will not address those particular TOE changes. Students should apply the current AOE logistics doctrine as discussed throughout this ST to any Limited Conversion Division XXI scenarios.

Eventually, the Army will mature to a complete Force XXI divisional structure to include CSS. ST 63-1 discusses these Force XXI CSS changes. The Force XXI division represents a leap forward into the realm of 21st century technology. The smaller Force XXI division is more lethal and mobile, and has real-time situational awareness. Situational awareness means a complete, common, relevant picture of the battlefield for every commander. This information enables Force XXI commanders to quickly amass forces allowing this division to defeat a larger but less technologically advanced enemy.

The Force XXI concepts and organizational structures found in chapters 1 and 2 of this ST reflect a paradigm shift from a supply-based CSS system in the AOE to an advanced distribution-based CSS structure. Future technology will make this shift possible.

CHAPTER 7

FIXING THE FORCE

7-1. INTRODUCTION

Maintenance is the logistics function that keeps materiel operational, restores it to an operational condition, and upgrades its usefulness through design modification. Maintenance management has assumed greater importance due to its critical role in sustaining and increasing combat power. The primary focus of maintenance resources in the combat zone (CZ) is directed toward weapon systems. Maintenance work is performed as far forward as practical within the limitations of the commanders' priorities, resources and time available, the tactical situation, and other factors. To maintain weapon systems forward in the battle area, a variety of events must be preplanned and vigorously executed. Trained mechanics who are skilled in proper diagnostic techniques, equipped with the appropriate tools, and have the proper repair parts on hand accomplish this. If any of these conditions are missing, the weapon systems will not become operational, thereby reducing the unit's combat power. When does the Army maintain?

- When a certain time elapses.
- When a failure occurs.
- When it sustains combat damage.

7-2. ARMY MAINTENANCE SYSTEM

The levels of maintenance (less aircraft) are unit maintenance, DSM, GSM, and depot maintenance (see table 7-1). These levels, together with innovations focusing on equipment design, represent an effort to reduce personnel requirements and simplify the maintenance effort. These efforts will provide responsive maintenance; improve operational mobility, flexibility, and readiness; and thereby increase battlefield efficiency.

Table 7-1. Levels of Maintenance

Levels	Functions	Task	Organization
Unit	Equipment maint	Service & replace	Co/btry/troop
DSM	Repair & return	Replace & repair	TOE/MTOE maint unit
GSM	Repair & return to supply system	Repair & overhaul	TOE/MTOE maint unit, HNS, contract
Depot	Repair & return to supply system	Overhaul & rebuild	Army Materiel Command HNS, contracts

a. A crew, the equipment operator, or unit maintenance personnel perform *unit maintenance*. Unit maintenance is characterized by quick turnaround based on service and replacement. Maintenance operations normally assigned to the unit level include lubrication, diagnosis, replacing easily accessible unserviceable parts, and recovering equipment to and from a supporting maintenance activity. Unit personnel also recover unserviceable but repairable equipment that is beyond their capability to repair at DS level. These items are submitted to supporting maintenance facilities for repair. The supporting FSB mainte-

nance company, using MSTs, will provide the required support forward in the UMCP or at the breakdown site (onsite). Units are also responsible for accomplishing required oil analysis tasks.

The *battalion maintenance officer (BMO)* controls the maintenance within the battalion. As the battalion is task organized, the BMO releases maintenance assets for those companies that are detached and accepts maintenance assets from attached companies. It is imperative that he ensures that adequate personnel, tools, maintenance and recovery vehicles, test equipment, and manuals are on hand so he can task organize the maintenance platoon to support the TF combat requirements.

b. Direct support maintenance (*DSM)* is characterized by highly mobile, forward-oriented repair. Equipment is usually repaired by replacing unserviceable modules and returning it to the user. Divisional DSM units will support division maneuver elements. Nondivisional DSM units will provide dedicated DSM to nondivisional units on an area support basis within the corps rear area or the division area. Nondivisional maintenance also provides reinforcing/backup DSM to the division.

Other operations normally assigned to the DSM level include diagnosing and repairing unserviceable materiel and returning it to the user. DSM units also provide ASL repair parts, perform light body repairs, and provide technical assistance.

c. General support maintenance (*GSM)* includes those maintenance actions selected maintenance activities authorize and perform to support a major Army command (MACOM) or other force as a whole rather than supporting specific users. Materiel managers at EAC schedule GSM programs (such as repair, modification, or upgrade) to respond to the theater supply system's needs. Scheduling is accomplished according to the availability of repair parts and other maintenance resources. Theater supply system GSM generally will be performed outside a deployed corps. Operations normally assigned to the GSM level include supporting the lower maintenance levels; performing heavy body, hull, turret, and frame repair; performing area maintenance support, including technical assistance, onsite maintenance, and MSTs as required or requested; and collecting and classifying unserviceable or abandoned class VII materiel. Equipment is repaired and returned to the supply system. GSM companies are authorized at EAC (theater) and are assigned to an area support group maintenance battalion.

d. Depot maintenance supports both the combat forces and the overall DA Inventory Management Program. In support of the combat forces, depot maintenance operations can back up DSM and GSM units and provide assistance in technical training to the forces during mobilization and peacetime. In support of the overall DA Inventory Management Program, depot maintenance operations serve as a source of combat-ready materiel.

Ground maintenance support in the theater is depicted in figure 7-1.

7-3. AIRCRAFT MAINTENANCE

The organization for Army aircraft maintenance consists of three levels of maintenance:

a. Aviation unit maintenance (AVUM). Units perform AVUM on their assigned aircraft. Company-sized aviation maintenance units perform primarily preventive maintenance tasks, unscheduled maintenance repair, and component/line replaceable unit (LRU) replacement functions associated with sustaining a high level of aircraft operational readiness. AVUM equates to unit/organizational and limited DS ground maintenance.

b. Aviation intermediate maintenance (AVIM). Heavy DASBs, AVIM battalions, light division AVIM companies, and nondivisional AVIM units support AVUM units. This support includes all maintenance functions authorized at the AVUM level, plus intermediate levels of testing, repairing, and replacing selected items that cannot be accomplished at the AVUM level due to test, measurement, and

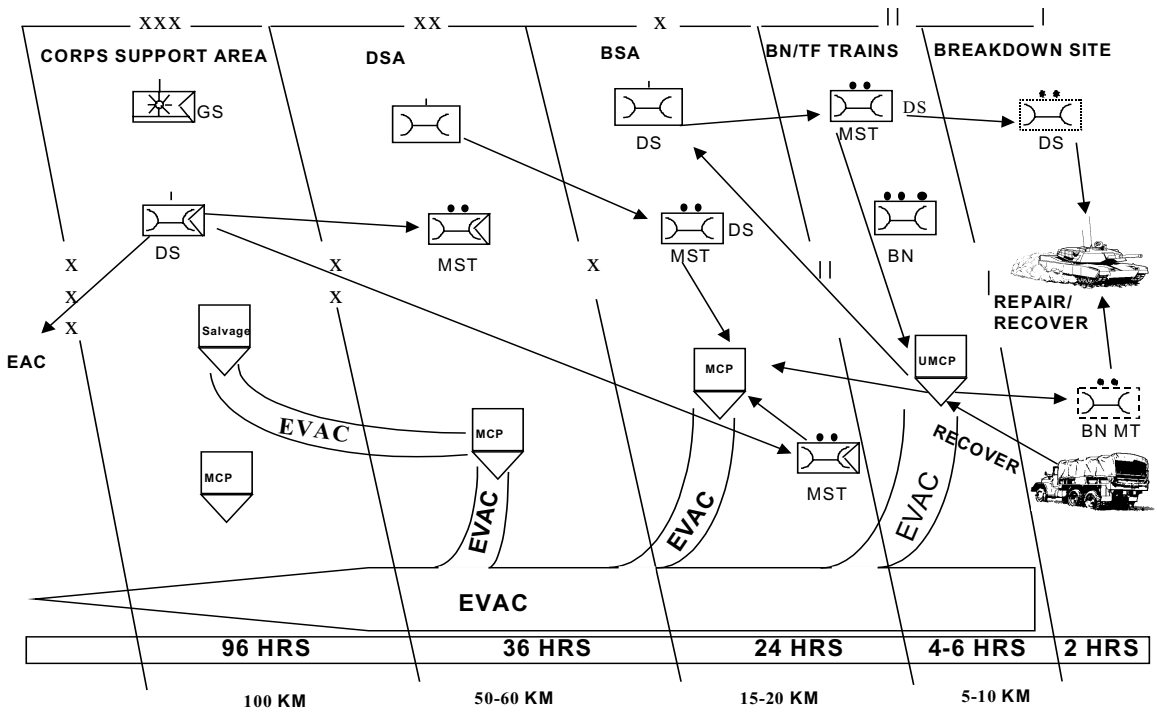


Figure 7-1. Maintenance on the battlefield.

diagnostic equipment; special tools; facilities; and expertise. AVIM equates to DS and GS ground maintenance. Doctrinal passback maintenance is the percent of the divisional AVIM workload that is "passed back" to the supporting corps AVIM battalion. All divisional TOEs are decremented to compensate for doctrinal maintenance passback, and the corps AVIM battalions are designed to accommodate it.

c. *Depot*. Depot-level maintenance for aircraft is not designed for field applications. It supports the "repair and return to the supply system" concept and includes maintenance that is above the AVIM level. Most depot-level aviation maintenance is performed in CONUS. There are a number of depot-level special repair activities (SRAs) located in outside of CONUS (OCONUS) theaters of operations. These SRAs are limited in their depot capabilities and focus on mission equipment and exceptional items that economy and fleet-readiness dictate in theater depot-level repair. Civilian aerospace service contractors who interface with the corps-level AVIM units for component distribution and workloading operate the SRAs.

7-4. FORWARD SUPPORT MAINTENANCE

Forward support maintenance is designed to support combat units' weapon systems as far forward as possible. When division equipment requires repair, maintenance personnel organic to the unit (unit level) or the forward battalion's MSTs (DSM level) conduct repair at the UMCP or the breakdown site. Corps (COSCOM) maintenance companies, as required, provide MSTs to work with the FSB (DSM reinforcing). These COSCOM MSTs are tailored from the mobile maintenance team and normally from DSM units with a backup/reinforcing maintenance mission, but they may be from any DSM unit with available support capacity. MSTs provide technical assistance, higher-level maintenance support, and special tools far forward on the battlefield, usually at a UMCP. Corps (COSCOM) MSTs return to their organic HQ when no longer needed in the forward location. The FSB MST remains at the unit level (combat trains) to provide continuous support forward.

The MMC centrally manages maintenance within the division or corps. The MMC determines what, where, when, how, and who will repair equipment. The DSM units evacuate equipment to the DSM backup units or they can request assistance from reinforcing MSTs. This support is based on preplanned directives the MMC issues (automatic evacuation instructions) or by direct communications with the MMC. The MMC shifts repair priority within the division or corps to various units and/or weapon systems to ensure maximum combat power.

Another important aspect of forward support maintenance is battlefield damage assessment and repair (BDAR). This repair could significantly impact the outcome of a specific combat mission. BDAR is nonstandard maintenance to make a weapon system operational. Operator, crew, and unit maintenance teams may perform BDAR on disabled equipment. The objective is to rapidly return the item to combat. However, personnel will only perform BDAR when standard maintenance procedures are impractical.

The "reinforcing" maintenance intent is to support the repair and return to the user as rapidly and as far forward as possible. It involves DSM units providing maintenance support to other DSM units. This concept ensures that maintenance assets are fully committed based on requirements. The reinforcing DSM unit will send MSTs forward to repair equipment onsite or in forward maintenance collection points (MCPs). The reinforcing unit may supply the repair parts required to repair equipment that DSM units evacuate. Automatic evacuation instructions and repair-time limitations are fundamental components of the maintenance-reinforcing concept.

7-5. INTEGRATED FORWARD MAINTENANCE SUPPORT

Battlefield maintenance support integrates unit- and DS-level maintenance. This integration occurs at the UMCP and is accomplished using MSTs assigned to the forward support maintenance company. The forward support maintenance company's mission is to provide dedicated DSM to a maneuver brigade. The maintenance company TOE provides mobile SSTs that are authorized on the basis of one per maneuver battalion. The authorization is based on supporting a pure battalion (armor or infantry). As the battalions task organize, the maintenance company commander task organizes his SST assets into an MST capable of supporting a TF. This MST goes forward to the UMCP. The team remains with the UMCP, is integrated into the UMCP defense plan, and receives routine administrative logistics support from the supported units. Team elements may be sent forward to the breakdown site, and while the team is able to perform more extensive repairs than the company maintenance team, they adhere to repair-time limitations. Figure 7-2 shows how SST assets can be task organized into MSTs to support TF operations.

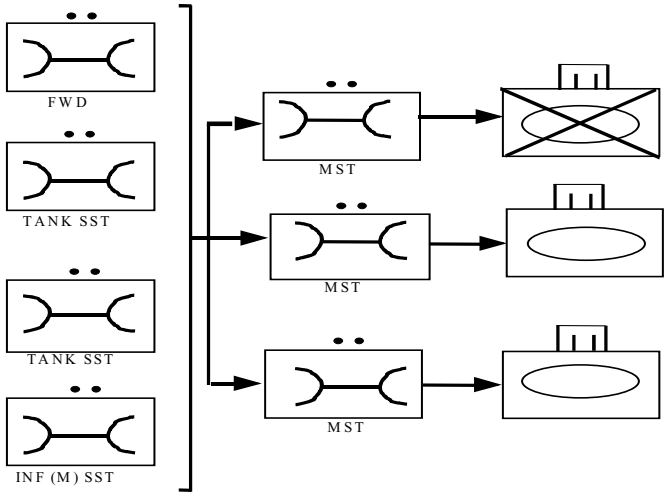


Figure 7-2. SSTs task organized into MSTs.

7-6. RECOVERY AND EVACUATION

Another aspect of forward support maintenance is battlefield recovery and evacuation. Recovery or evacuation moves inoperable equipment to the maintenance activity best suited for the repair or balances the work of forward elements so they can meet new requirements. Battlefield recovery is the first step in reclaiming and reissuing military equipment. The using unit is primarily responsible for recovering damaged equipment. Recovery by tactical units is usually to UMCPs or a designated MCP along MSRs. Sometimes the tactical units will be forced to leave damaged equipment in place in the offense, and with coordination, supporting maintenance units may be required to recover this equipment. The BMO usually centrally manages recovery operations in armor and mechanized infantry battalions. The battalion maintenance platoon has recovery vehicles to provide recovery support. The platoon has company maintenance teams, each of which has an organic recovery capability. The recovery mission is assigned to a recovery team that accomplishes the recovery according to unit SOP.

Evacuating damaged equipment begins where recovery operations stop at the UMCP or designated MCP. Evacuation is a coordinated effort among maintenance, supply, and transportation elements. The equipment is transported on HETs rearward to another DSM repair facility. Evacuation occurs from the maneuver battalion UMCP to the FSB's maintenance company MCP in the BSA with its own recovery assets. Evacuation may be by transportation units to the division MCP in the DSA or to a corps MCP. Severely damaged equipment may be evacuated directly from the UMCP to any higher level of maintenance. The G4 sets the overall division evacuation policy in coordination with the DISCOM commander. The DISCOM commander has overall evacuation control, exercised through the DMMC. A DISCOM or COSCOM transportation unit physically evacuates the equipment. This movement is done according to set procedures or in response to the DMMC's disposition instructions.

The DMMC manages the evacuation effort. It acts as the interface between the FSBs' maintenance companies and other CSS elements to the rear of the brigade boundary. Evacuation policies and procedures are set as a matter of SOP. Automatic disposition instructions for certain items prevent undue delay in moving equipment from the brigade to the DSA. Maintenance units request disposition instructions from the DMMC through the support battalion support operations section for items the automatic disposition lists do not cover.

Different sources provide the transportation to evacuate equipment. Maintenance unit assets and resupply vehicles returning to the rear may be used in the evacuation process. Those vehicles provided in response to unit transportation support requests are also used. For heavy equipment transportation, the maintenance units depend on the TMT company HETs.

Evacuation vehicles transport unserviceable assemblies and major end items according to the DMMC's disposition instructions. They also may backhaul serviceable assemblies and end items from rear repair activities to the forward maintenance or supply elements. HETs and other cargo vehicles bring major replacement end items forward.

7-7. CANNIBALIZATION AND CONTROLLED EXCHANGE

Cannibalization and controlled exchange may be used when parts are not available from the supply system and an item of equipment can be repaired using parts from other unserviceable equipment. The appropriate commander decides to cannibalize or effect controlled exchange on unserviceable equipment. Higher HQ establishes the guidelines on which he will base his decisions. Cannibalization is the authorized removal, under specific conditions, of serviceable and unserviceable parts, components, and assemblies *from materiel authorized for disposal*. Controlled exchange is removing serviceable parts, components, and assemblies from unserviceable, economically repairable equipment and immediately reusing them in restoring like items of equipment to a combat-operable or serviceable condition. Controlled exchange decisions should be made as close to the damaged equipment site as possible, preferably

by using unit personnel in coordination with MST personnel. In controlled exchange, *the unserviceable part is exchanged with the replacement*, ensuring the end item remains complete if not serviceable. The needed repair part is then ordered.

7-8. REPAIR-TIME LIMITATIONS

a. *General*. Repair-time limitations will concentrate the entire maintenance effort on making quick repairs forward to ensure the maximum number of combat weapon systems are available to commanders. Figure 7-1 on page 7-3 provides guidelines for repair-time limitations. The COSCOM will establish repair-time criteria.

b. *Guidelines*. The first step in determining what maintenance level is required to repair a piece of equipment is to identify the deficiency. Then compare the deficiency with the maintenance allocation chart (MAC) to determine if the repair can be accomplished at the unit, DSM, GSM, or depot level of maintenance. If the repair requires GSM or depot-level maintenance, the piece of equipment is evacuated to EAC for repair and then returned to the supply system. If DSM is required for the repair, an estimate is made of the number of hours it will take for repair. This estimate should include all activities that must be completed to return the piece of equipment to the user.

Generally, if the estimate is less than 36 hours, the normal assigned DSM unit will repair the equipment. If the estimate is between 36 and 96 hours, the backup DSM unit will make the repair. If the estimate is greater than 96 hours, the equipment is a candidate for evacuation to EAC.

These repair-time limitations are provided for planning purposes only, and division- and corps-level commanders can change them to support a specific mission or situation. The appropriate-level command will publish the changes to the repair-time limitations in its CSS annex or FRAGO. In a static type of defense, the repair-time limitations may be extended to reduce the amount of evacuation required to higher-level or backup DSM units. In a pursuit type of offensive operation, the repair-time limitations may be reduced to allow higher-level or reinforcing DSM units to move forward and repair the equipment in MCPs.

7-9. CONTROL PROCEDURES

Maintenance repair-time guidelines assist CSS leaders in deciding where to repair equipment. This prevents equipment from accumulating in the forward area and aids in distributing the workload. Command policy and the factors of METT-TC determine the times. The guidelines are flexible and nonrestrictive, and the commander who imposed the guidelines may change them. The time begins with the operator and crew's diagnosis and ends when the equipment is returned to battle (released to the user).

MACs authorize certain repairs to be made at each level. When used in conjunction with the time guidelines, they help determine who performs a given repair and how long it will take to complete the action. Repairs not authorized at a specific level or that will exceed the time allowed are usually evacuated to the next level of maintenance.

7-10. FORCE DEVELOPMENT

The number of maintenance units required to support a combat force depends on the density of that force's combat equipment. To this information, planners add the combat area METT-TC analysis, transportation facilities, HNS, pre-positioned war reserve stocks, and anticipated combat length and intensity. These factors vary depending on the political situation and the geographic area to which forces are being deployed. For example, planners would structure a support force to sustain the land combat of a corps in Europe differently than they would a contingency corps deployed to the Middle East.

7-11. REPAIR PARTS

Each level of maintenance and the supply system (GS) at COSCOM stock and issue maintenance repair parts. All units maintain a PLL of parts designed to sustain the unit for a specified number of days. These parts are limited to essential quantities.

a. General. The DSU maintains a more extensive repair parts stockage designed to replenish the needs of its supported units and its own needs. The divisional DSU stockage is part of the division's ASL and is usually limited to about 3,000 line items. The heavy division's electronic maintenance company, part of the MSB, maintains a division ASL of 6,000 to 10,000 line items. COSCOM DSUs maintain approximately 5,000 line items in their ASL. The repair parts supply company (GS) is the source of repair parts for the DSUs. This unit stocks approximately 35,000 to 45,000 line items.

b. Requests. Supported units submit requests and pick up repair parts at their supporting DSM company. The division ASL must support the combat PLLs throughout the division. The ASL should also include parts that DSM companies will need to perform authorized DS-level maintenance tasks. DSM units will fill deadlined and emergency requests immediately on receipt and by the most expeditious means.

c. Requisitions. When DSM companies cannot fill the requests from their ASLs, the DMMC transmits requisitions to the COSCOM MMC. The COSCOM MMC also receives requisitions from corps, their supported divisions, nondivisional units, and from DMMCs. Applicable MMC parts supply branches will process requisitions daily and initiate follow-up actions to determine each requisition's status. The MMC will screen, consolidate, and forward specified units' requisitions to appropriate CONUS NICPs to be delivered via air lines of communication (ALOCs). It will transmit all other routine requisitions, including requisitions for TA-controlled items, to the TAMMC.

d. Issue. The repair parts supply company (GS) supplies class IX items. The COSCOM MMC controls the repair parts inventory maintained in the repair parts supply company.

e. Distribution. COSCOM and the TAACOM repair parts supply companies make up the GS base of supply for repair parts. Once surface-delivered repair parts arrive in theater, theater transportation assets will transport them to a TAACOM or COSCOM GS repair parts supply company. Repair parts will then be transported to DSM units. CONUS NICPs provide class IX and maintenance-related class II items to support ALOC units. Repair parts requisitioned from the NICP will be shipped by air to the aerial port nearest the ALOC-designated requesting unit.

7-12. AVIATION REPAIR PARTS

Aviation units (AVUM companies) submit class IX requests to their supporting heavy DASB, light division AVIM company, or AVIM battalion. The heavy DASB's ground maintenance company (GMC) maintains both ground and aviation repair parts for the AB. The heavy DASB's ASL includes repair parts that support the AB's and the division cavalry aviation PLLs. The ASL will also include repair parts required to provide AVIM-level authorized repairs. The heavy DASB will transmit consolidated requisitions for aircraft repair parts to the MMC. It will also requisition replenishment repair parts for its ASL. The DMMC processes the requisitions, arranges to cross-level spares, and initiates any required follow-up action. The heavy DASB AVIM company is the only AVIM company that does not maintain an aviation repair parts ASL.

7-13. SALVAGE

In contrast to scrap items, salvage items retain some value above their basic materiel content. A CSG should set up supply unit salvage points near MCPs. The MCPs will turn serviceable items over to the

salvage point for return through supply channels. Salvage collecting points will turn over mechanical items to the MCP for classification, repair, and disposition.

7-14. EQUIPMENT REPLACEMENT

Another component of the fixing process is providing replacement equipment when damaged or inoperable equipment cannot be fixed and returned to the user within a reasonable time. To ensure the most effective use of end items, these items are normally command controlled. Issuing weapon systems follows the normal distribution route—EAC to the heavy materiel supply company (GS) and on to the issuing DS supply company.

The daily battle loss report serves as the requisition for selected major end items. The COSCOM MMC publishes and updates the list of corps- or theater-controlled items. The COSCOM HQ designates these items as "reportable items." Their inclusion in the logistics status report serves as their requisition. The COSCOM MMC will report the battle loss of critical, command-controlled weapon systems to the corps G3 and G4. The corps commander will approve their issue. The corps commander also directs their distribution to the units he regards as the most critical to the corps battle's success. Following command approval, the TAMMC or COSCOM MMC directs issue from a heavy materiel supply company to the supporting DS supply company. WSRO-controlled weapon systems need to link up with a replacement crew. Depending on METT-TC, linkup could occur in the BSA, DSA, or heavy materiel supply company area.

7-15. WEAPON SYSTEM REPLACEMENT OPERATIONS

Managing weapon components separately helps to efficiently allocate limited weapon system resources and crew members. The corps commander will designate a weapon system manager (WSM) to intensively manage corps weapon system replacement. Due to weapon system replacement's criticality to the corps battle, the corps commander could appoint the corps G3 as the WSM. The G3 would then coordinate the COSCOM's weapon system repair, replacement, and transportation resources with the personnel group's crew replacement resources. The workload associated with keeping track of all assigned crew-served weapon systems, their units of assignment, mechanical condition, and expected date of return from maintenance units may best be handled at the COSCOM level.

WSRO is a management tool used to supply the combat commander with fully operational major weapon systems, including required equipment and trained crews. Two terms that are often used to describe WSRO are "ready for issue" and "ready to fight." A ready-for-issue weapon system is mechanically operable, including additional equipment [radios, machineguns, fuel, and basic issue items (BII)].

A ready-to-fight system is a manned ready-for-issue weapon with ammunition stowed aboard and is boresighted. The WSM can also use critical HETs or available rail assets to push the weapon forward to the linkup point.

7-16. CLASS VII

Class VII stocks are maintained at corps level and higher. Division units submit their requests for class VII items to the DMMC property book class VII section. If stocks are available within the division, the section laterally transfers stocks between units to satisfy the requirement. If stocks are not available within the division, the DMMC requisitions them from the COSCOM MMC. Physical distribution of incoming stocks is handled through the same channels as classes II, III (packaged), and IV.

7-17. OPERATIONAL READINESS FLOAT (ORF)

Upon the outbreak of general hostilities, nondeployed MACOMs will use ORFs to improve the readiness posture and fill shortages per the Deputy Chief of Staff for Operations and Plans' guidance. Deployed MACOMs will do the same and also use ORF to fill initial battle losses. Units deploying before the outbreak of hostilities will deploy with unit-allocated ORF equipment from the installation. Unit ORF authorization for peacetime deployment is based on a ratio of unit equipment density by line item number (LIN) that the installation ORF from which the unit is deploying supports.

7-18. COSCOM MAINTENANCE OPERATIONS

The COSCOM's maintenance system is a combat multiplier. It ensures corps units remain operationally ready for war. It also repairs and returns corps weapon systems and equipment to battle or provides replacements for battle losses. COSCOM DSM units repair and return damaged or disabled equipment to their using units. Whenever possible, they send MSTs forward into the division sector to repair damaged or inoperable equipment onsite. When weapon systems or other major end items are destroyed, the COSCOM's heavy materiel supply unit provides a class VII battle loss replacement.

The COSCOM tailors its DSM organization to repair and return weapon systems to the battlefield quickly. The COSCOM will use its class VII supply system to provide battle loss replacements to those units that can most influence the corps battle.

7-19. REINFORCING MAINTENANCE

Each nondivisional DSM unit can provide organic mobile maintenance teams to perform onsite reinforcing maintenance, malfunction diagnosis, and battle damage assessment. These teams may be task organized into appropriate MSTs to provide reinforcing maintenance to other DSM units. The MMC assigns these reinforcing MSTs to weigh the maintenance effort or to better use available maintenance assets. The reinforcing MSTs are located with and supported by the DSM unit they are reinforcing.

The COSCOM/CSG will attach repair teams (MSTs) to DSM units to support units or TFs deploying forward into divisional areas, provide specialized maintenance on low-density equipment, support reconstitution, or provide reinforcing maintenance capabilities. When the COSCOM designates a corps DSM unit to provide maintenance to a division, it must augment that unit with the appropriate MSTs to perform the additional maintenance workload.

7-20. OTHER CORPS MAINTENANCE CAPABILITIES

The COSCOM's DS missile maintenance sustainment organization consists of those elements necessary to support the corps. The actual support structure will depend on the system-unique missile systems requiring support. The elements attached to a maintenance battalion will vary, depending on the supported missile systems' types and density.

The COSCOM's heavy materiel supply company provides class VII battle loss replacement items. This company can receive, store, and issue 1,400 STON of GS-level class VII items per day. It maintains storage sites for COSCOM war reserve class VII stocks. Upon receipt of the end items from a TAACOM storage site, heavy materiel supply company personnel will deprocess the items. As necessary, they will ensure weapon systems are ready for issue and link them up with a replacement crew.

Owning units recover unserviceable equipment to the MCP their supporting DSM unit establishes. Based on METT-TC, DSM units may provide recovery and evacuation assistance. Owning units also recover aircraft. However, the AVIM unit responsible for the area where the aircraft is located may provide backup support. Evacuation begins at the MCP, and evacuation is coordinated between

maintenance, supply, and transportation elements. The COSCOM will evacuate items not repairable at the DSM units to GSM units in the COMMZ. The COSCOM MMC will provide disposition instructions to damaged equipment. As appropriate, the DISCOM or COSCOM will coordinate the transportation required to support evacuation operations.

7-21. COSCOM MMC MANAGEMENT

The COSCOM MMC provides routine day-to-day maintenance management IAW guidance and direction COSCOM support operations furnish. It focuses COSCOM maintenance resources on repairing and returning critical weapon systems to their users. Officers assigned to the commodity-oriented COSCOM MMC maintenance management branches will analyze and manage all aspects of their respective commodities' repair, readiness, and supply.

7-22. DISCOM MAINTENANCE OPERATIONS

DISCOM maintenance elements operate throughout the division area. They typically perform their functions onsite, at MCPs, and at company maintenance shops. Guidelines for time to repair at specific levels are provided for planning purposes, but the ultimate decision concerning maintenance timelines is a command consideration.

a. *MMC*. The MMC materiel management office manages repair parts supply and maintenance. It designs and manages the division class IX inventory and directs class IX issue. The section also monitors unit maintenance throughout the division. It collects, analyzes, and reports maintenance statistics. It records modification work order (MWO) status and compiles reports on division equipment's operational status. The section also provides disposition instructions on all unserviceable materiel.

b. *MSB*. The MSB's mission is to provide maintenance support for division and other designated units located in the division rear and reinforcing support to the FSBs. Some of the more specific maintenance-related functions provided are division-level supply support for class IX, operating a salvage collection point, transporting heavy or oversized cargo and equipment to the FSBs, and evacuating equipment from forward areas.

(1) *Electronic maintenance company*. The MSB electronic maintenance company provides DSM to division units the FSB maintenance companies do not support. It also provides reinforcing maintenance for the three FSB maintenance companies. It provides an ASL of up to 6,000 lines, RX service for selected common repair parts, onsite maintenance support, and COMSEC maintenance for all division units (less signal and MI battalion items). The company, when required, sends MSTs throughout the division area to provide required support consistent with tactical limitations and their support capabilities. The electronic maintenance company also provides DSM and missile class IX supply for division missile weapon systems, including the short-range air defense (SHORAD) system. This includes supporting radars, land combat missile systems, and MLRS. The support includes receiving, storing, and issuing class IX supplies for land combat, SHORAD, and MLRS systems; tube-launched, optically tracked, wire-guided (TOW) class IX and RX supply support; and onsite repair for all missile systems not organic to brigade.

(2) *Heavy maintenance company*. The MSB heavy maintenance company provides DSM to units within the division. This DSM includes metalworking; machining; and repairing automotive equipment, small-arms and artillery pieces, power-generation items, engineer equipment, fire control instruments, and tank turret systems. This company provides technical and limited recovery assistance to units employed in the division rear. Heavy maintenance company MSTs provide reinforcing support to the FSB maintenance companies. The company also provides teams to support the cavalry squadron and the MLRS unit located in the division rear.

c. DASB AVIM company. The AVIM company is assigned to the DASB in a heavy division. The DASB is organic to the DISCOM. The company is structured to support the aircraft assigned to the division, specifically, observation, utility, and attack helicopters. It provides the AB with AVIM and backup AVUM support at its base location in the division rear. The AVIM company's main body, located with the AB, performs extensive on-aircraft systems maintenance, including structural and airframe repairs, repairing components, and performing scheduled AVIM-level inspections. The GMC in the DASB maintains the division class IX (air) ASL. This is to replenish supported unit PLL stocks and support AVIM operations. The AVIM company also employs mobile, weapon system-oriented forward repair/recovery teams to perform authorized intermediate maintenance and BDAR in forward areas. The AVIM company provides limited collection, classification, and recovery of serviceable and unserviceable equipment.

d. FSB maintenance company. The FSB maintenance company is a critical component in "fixing the force." It provides DSM and common repair parts service in each brigade area that now includes the AB. The company includes a variable number of SSTs that provide tailored support to artillery, engineer, armor, or mechanized infantry battalions. The company provides one team for each maneuver battalion assigned to the brigade. The company can provide limited recovery assistance to supported units when required and technically supervises PLL supply for its supported units. It physically maintains a portion of the division ASL to support the items stocked in supported units' combat PLLs.

e. Division class IX repair parts.

(1) *Ground*. The DSUs and the DMMC share class IX supply in the division. The DSUs receive, store, issue, and turn in parts. Supply personnel in the DMMC materiel section manage and account for the class IX inventory. They use demand history and command-directed actions to help them. Customers in the DSA submit their requests directly to their supporting DSM unit. The FSB maintenance company will usually pass requests they can't fill directly to the DMMC. The MSB electronic maintenance company receives class IX items that arrive in the division and reports receiving the items to the DMMC. Items are forwarded to the FSB maintenance company for issue to the user located in the brigade area. All issues are reported to the DMMC to update its records. Turn-ins are handled in the same manner as receipts and reported to the DMMC.

(2) *Air*. The GMC in the DASB provides repair parts supply for all heavy division aircraft, avionics equipment, and aircraft armament systems. It also maintains the division ASL for class IXA. Normally the division class IXA ASL will contain at least one item for each PLL LIN item in the division. During combat operations, the AVUM platoon leader selects PLL/BDAR items to be available forward at either the combat trains or FARP for quick repairs.

CHAPTER 2

DIVISION AREA LOGISTICS
DIVISION SUPPORT COMMAND (DISCOM)

2-1. INTRODUCTION

The heavy division usually consists of seven major subordinate commands (MSCs)—the AB, engineer brigade, division artillery (DIVARTY), DISCOM, and three ground maneuver brigades. The DISCOM provides division-level CSS to all organic and attached division elements. The DISCOM commander is the division's principal logistics operator. He exercises full command authority over all of support command's organic units. To accomplish their logistics missions, DISCOM units deploy throughout the AO.

2-2. DISCOM LOGISTIC ORGANIZATION

The DISCOM (figure 2-1) provides division-level logistics to all organic and attached division elements. The COSCOM's corps support battalion (CSB) operating in the division area will provide CSS to the nondivisional units in the division area. The DISCOM commander is the principal division logistics operator. He exercises full command authority over all support command organic units. The division G4 has coordinating staff responsibility for logistic planning. He develops division-level plans, policies, and priorities. The relationship between the division G4 and the DISCOM commander must be extremely close because of their similarities in interests. The DISCOM support operations section and the division materiel management center (DMMC) plan and coordinate to ensure logistics support for all division and attached units. The DISCOM consists of an HHC/DMMC, a main support battalion (MSB), a division aviation support battalion (DASB), and one forward support battalion (FSB) per maneuver brigade.

a. The MSB provides division-level logistics to division units located in the division rear. It also provides reinforcing support to the FSBs. A detailed description of the MSB's mission, organization, and functions is in FM 63-21.

b. The DASB is organic to the heavy division DISCOM. The battalion provides AVIM and division-level logistics (less CHS) to the heavy division AB and the division cavalry aviation elements. A detailed description of the DASB's mission, organization, and functions can be found in FM 63-23.

c. The FSBs are organic to the DISCOM. These units provide division-level logistics to the brigades and other division units located in the brigade areas. A detailed description of the FSB's mission, organization, and functions is in FM 63-20.

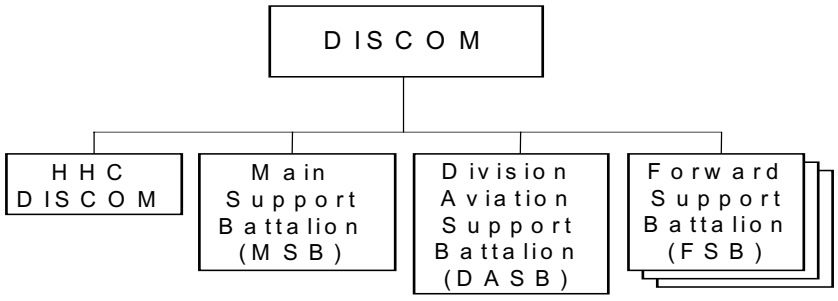


Figure 2-1. DISCOM (heavy division).

d. The DISCOM HHC/DMMC (figure 2-2) consists of the HQ company, the DISCOM HQ, and the DMMC. The HQ company provides all necessary administrative, supply, maintenance, and field feeding support for the company and the DMMC. The division rear CP and the DISCOM CP are normally collocated; therefore, the DISCOM provides supply, maintenance, and field service support to division rear CP personnel.

(1) The DISCOM HQ commands and controls its organic and attached units. It supervises and controls all division-level logistics operations. It also advises the division commander and staff concerning supply, maintenance, medical, transportation, and field services functions throughout the division.

(a) The S1 section provides and coordinates personnel service support (PSS) for the support command. Support from organic assets includes limited personnel and administrative (P&A) services, legal service support, and religious support. Coordination with division and corps assets provides additional P&A, legal, financial, postal services, morale and welfare activities, and public affairs support.

(b) The S2/S3 is the principal staff adviser to the DISCOM commander on military intelligence (MI) and counterintelligence; organization; training; communications; nuclear, biological, and chemical (NBC); and CSS mission-related matters (except CHS and PSS). Branches within the S2/S3 are Plans and Intelligence, Division Support Operations, and Communications. The Division Support Operations Branch includes a division support operations office, a movement control office, a division food service office, and a system support office. The support operations branch ensures that supply, maintenance, transportation, and field services resources are used efficiently and effectively, and coordinates with the DMMC to ensure it carries out priorities. The Division Support Operations Branch controls, through the movements control officer (MCO), the transportation motor transport (TMT) vehicle commitments for CSS within the division. It also coordinates and interfaces with the DMMC to ensure it carries out maintenance, supply, and transportation priorities.

(c) The S4 section is responsible for all logistics matters pertaining to DISCOM units but is not concerned with division-level logistics. It reviews internal logistics status reports, maintains the current status of the commander's critical list, coordinates transportation requests for administrative moves, assigns technical supervision over internal supply and maintenance procedures, and provides staff supervision and overall coordination for the DISCOM food service program.

(d) The division medical operations center (DMOC) is the DISCOM medical staff element responsible for determining CHS requirements and planning, coordinating, and monitoring CHS to the division. The DMOC synchronizes CHS operations to maximize use of division and corps medical elements under OPCON or attached to the division. The DMOC has four branches: the Medical Operations Branch, Medical Material Management Branch, Patient Disposition/Reports Branch, and Medical Communications Branch.

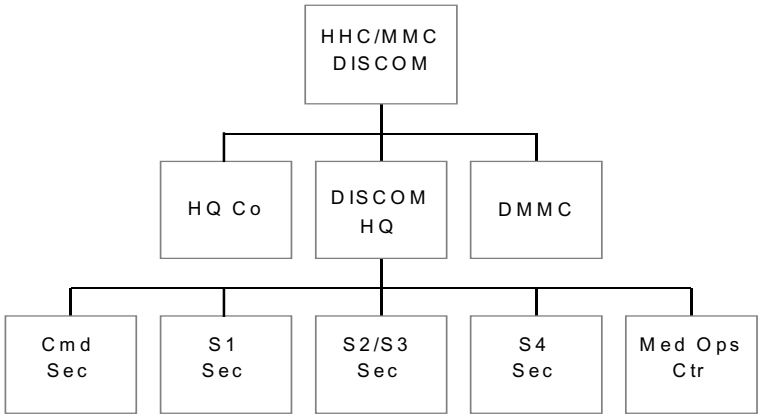


Figure 2-2. DISCOM HHC/DMMC (heavy division).

(2) *DMMC.* The DMMC is the primary materiel-managing element in the division. The center receives policy and operational guidance from the DISCOM commander and advises him on materiel (supply and maintenance, less medical) management. Activities include—

(a) Determining supply requirements.
(b) Ordering and directing supply distribution (except class VIII).
(c) Developing and supervising the division ASLs and PLLs.
(d) Maintaining the division property book and Army equipment status reporting data.
(e) Operating all integrated division maintenance management information programs. The DMMC maintains maintenance status, including problems, maintenance requirements, and unit materiel readiness in the division.
(f) Providing a weapon system manager (WSM) to maximize the number of operational weapon systems available to the fighting forces.

2-3. DISCOM LOGISTIC MISSION

a. The DISCOM provides the following CSS:

(1) Supports class I, II, III, IV, V, VI, VII, VIII, and IX supplies.

(2) Water purification and limited water distribution.

(3) Operates ammunition transfer points (ATPs) within the division. [Under the maneuver-oriented ammunition distribution system—palletized loading system (MOADS/PLS), the corps DS ammunition company operates the division rear ATP.] The DISCOM FSBs operate the BSA ATPs.

(4) Operates MA collection points located in the BSAs and in the DSA. When augmented by the COSCOM, it helps receive and identify remains and helps arrange for evacuation to an MA collection point.

(5) DSM and reinforcing unit maintenance support for all common and missile materiel organic to the division and AVIM for all aviation materiel.

(6) Materiel (supply and maintenance) management for the division.

(7) Transport for personnel, supplies, and equipment to accomplish division logistic and administrative missions. Also provides supplemental ground transportation to support emergency requirements.

(8) Supervises and coordinates DISCOM transportation operations

(9) Automatic data processing (ADP) system software support for division logistic activities.

(10) Materiel salvage facilities.

(11) A limited capability to carry reserve supplies.

(12) Logistic information and advice to the division commander and his staff except for construction.

(13) Echelon I and II CHS to units assigned and attached to the division. This includes emergency medical care, advanced trauma management (ATM), and sick call. It also provides intradivision

ground evacuation, emergency dental care, and optometry support. In addition, DSM and unit-level medical maintenance are provided as well as coordinating echelon III (corps) CHS.

(14) Plans, coordinates, and conducts rear operations within its assigned area of responsibility (AOR).

(15) Receives, stores, and distributes unclassified maps.

b. The DISCOM depends on—

(1) Corps transportation to bring supplies forward to the DSA and BSAs (classes IV and V and limited class III).

(2) The division AB or corps medium helicopter units for airlift needed to support logistic requirements.

(3) Additional water distribution support.

(4) Nondivisional field service units for laundry, bath, clothing exchange, and MA services (only when there are no authorized organic augmentations).

(5) Appropriate corps elements for financial, legal, personnel, and administrative services.

(6) Corps aeromedical evacuation units for aeromedical evacuation support.

2-4. THE MAIN SUPPORT BATTALION

The MSB is the main logistic and medical organization/provider in the division rear. It supports units in the division rear and provides direct and reinforcing support to the FSBs and the DASB. The battalion provides DSM, supply, transportation, and medical support to units for a variety of missions. When the battalion is augmented, it also provides field services. The MSB must effectively manage its subordinate units, including directing force protection. The MSB does not provide class V support to the division.

One MSB (figure 2-3) is organic to the DISCOM. The command element supervises, directs, and coordinates assigned and attached units that run the support operations in and around the DSA.

Commanding, controlling, and coordinating the many MSB elements with their diverse missions present a challenge for the MSB commander and staff. They must perform the logistic tasks of fueling, fixing, moving, and sustaining the soldier. They must integrate these tasks into a comprehensive battle support plan. The thrust is to support with CSS assets as far forward as possible.

Division logistic and medical elements are integrated into the MSB's C^2 system. This allows the division to shift its support effort to the critical place and time to influence the battle. For example, MSB elements can and do routinely operate outside of the DSA. Some elements habitually support specific forward division units. Others may be task-organized formations to reinforce a main effort sector or an FSB. The DISCOM HQ coordinates support, organizes for combat, assigns locations, and specifies command relationships after thorough consultation with the MSB, DMMC, FSBs, DASB, and supported units.

The MSB performs its mission if it supports the division's course of action and meets the DISCOM commander's guidance. Specifically, it supports the division rear and reinforces units by providing or

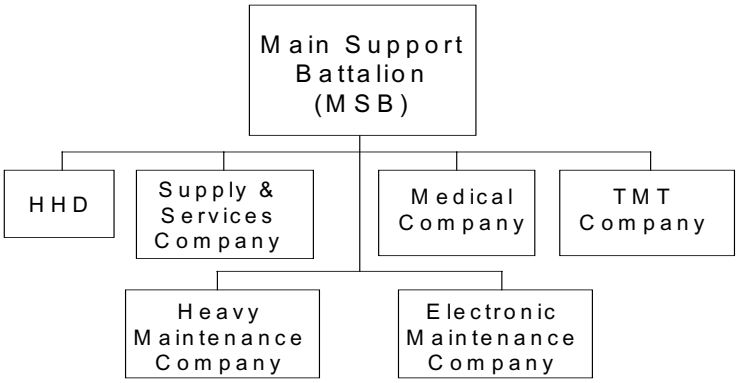


Figure 2-3. MSB (heavy division).

coordinating to provide all classes of supply, as well as maintenance, medical, field services, and transportation support, in the amounts and at the times specified in the MSB SOP. It must replenish its supported units' basic loads of all supplies, including repair parts. It must also replenish prescribed loads of maintenance-significant class II and IV items and maintain equipment to meet prescribed operational levels. It distributes class VII items IAW the division commander's priorities.

The MSB coordinates transportation requirements with the MCO to meet the division's needs. Finally, it coordinates medical evacuation and treatment operations and field services activities with the DISCOM support operations branch to meet division rear needs. For specific information on the MSB, see FM 63-21, chapters 5 through 10.

2-5. DISCOM EMPLOYMENT

The mission is the basic consideration in locating CSS units and their facilities. Maintenance, supply, and medical companies and other DISCOM units must be far enough forward to be appropriately responsive to the supported units' requirements. Maintenance, for instance, takes place not only in the BSA but also wherever the weapon system is located, if at all possible. Mechanics and mobile equipment must be there to fix or replace weapon system components. Additional considerations are enemy capability and his proximity to support activities and other potential targets. BSAs (discussed in chapter 1) and the DSA normally locate toward the rear of the units they support.

The DSA is that portion of the division rear the DISCOM, division rear CPs, and many of the DISCOM's organic and attached units occupy. This area also normally holds CS units and COSCOM, finance, and personnel elements that support the division. The DISCOM commander is the DSA commander. The division rear CP normally collocates with the DISCOM CP. This helps with coordination, shares area communications assets, and draws life support and security. The DSA is normally between the division rear boundary and the BSAs, next to air-landing facilities, and near at least one MSR. The DSA's precise location is contingent on a number of factors. Some of the major factors are the tactical plans and the COSCOM units' and MSRs' locations. The terrain in the AO, security, and access to lines of communication (LOCs) must also be considered. Like units in the BSA, elements within a DSA are dispersed, and each element must be prepared to protect itself. Employing passive defense measures, such as dispersion, movement, concealment, cover, camouflage, and deception, reduces detection. Unit SOPs should prescribe active and passive defense measures for personnel, materiel, and installations. DISCOM units in the DSA displace only as necessary to maintain continuous support to the division and for security reasons. If a move is necessary, the DISCOM commander recommends the new location. This is done in close coordination with the division rear CP operations cell. A proposed layout of the DSA is shown in figure 2-4.

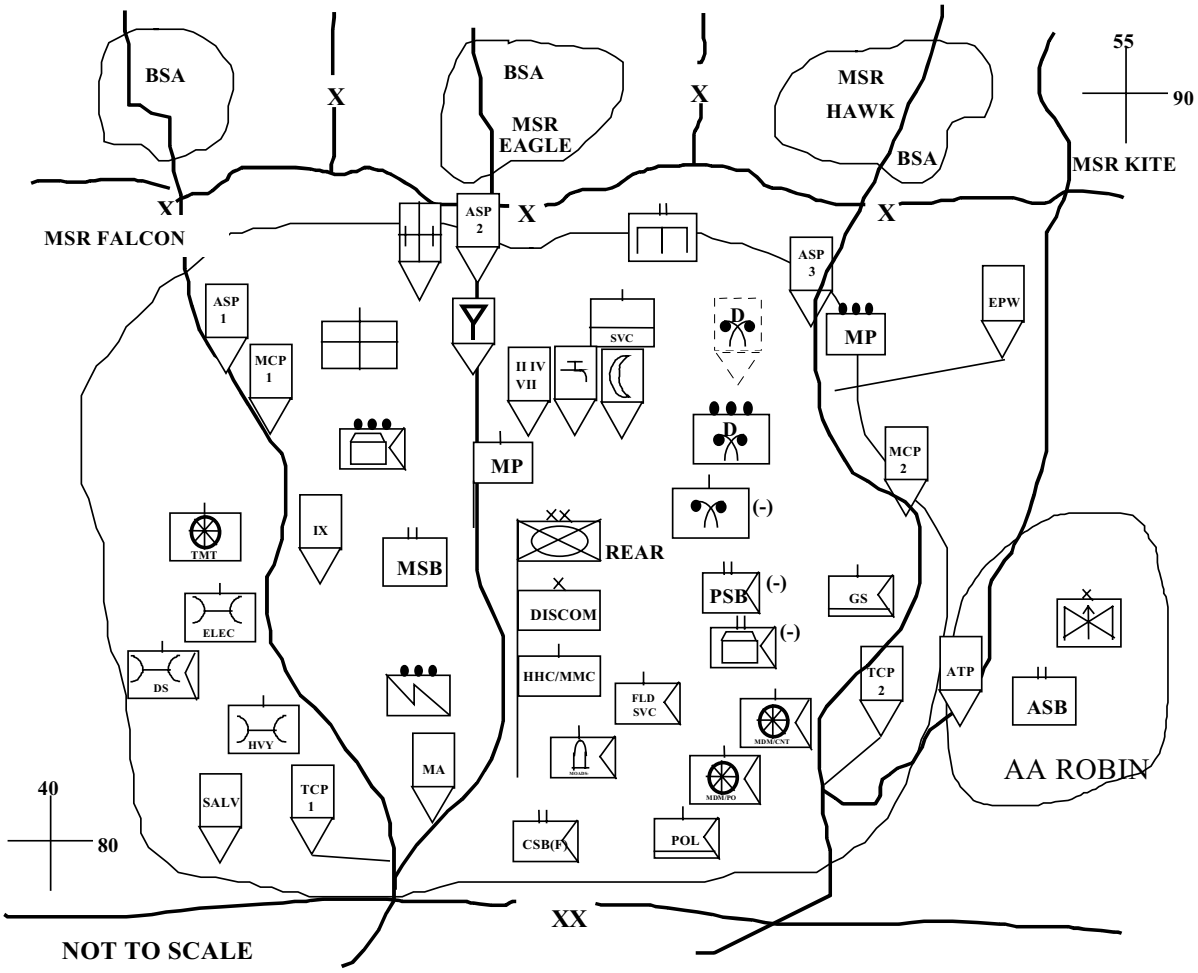


Figure 2-4. Sample DSA (AOE doctrine) layout (division elements).

2-6. FORCE XXI LOGISTICS CHANGES

The information in paragraph 2-6 is IAW CASCOM's final draft FMs 63-2-2, 63-20-2, 63-21-1, and 63-23-2, dated 30 Nov 99. The concept and organizational structures found in this document reflect a paradigm shift from a supply-based CSS system in AOE to an advanced distribution-based CSS structure for Force XXI. Technology makes this shift possible.

The Force XXI DISCOM (figure 2-5) will consists of an HHC, a DASB (with no significant changes), division support battalion (DSB) (previously called the MSB), and one FSB per maneuver brigade. The DISCOM commander must still provide the division's CSS direction. The DISCOM's multifunctional organization provides, coordinates, and synchronizes the division's logistics support. It provides arming through its class V operations; fueling through class III operations; fixing through its maintenance operations; transportation through the DSB truck company and FSBs' S&T sections; and sustaining through providing rations, individual equipment, and CHS support. The division personnel sections provide the manning function. This section addresses only Force XXI changes to the DISCOM HQ and the DSB. Specific FSB and DASB Force XXI changes are in chapter 1.

a. The DISCOM has the following responsibilities and functions:

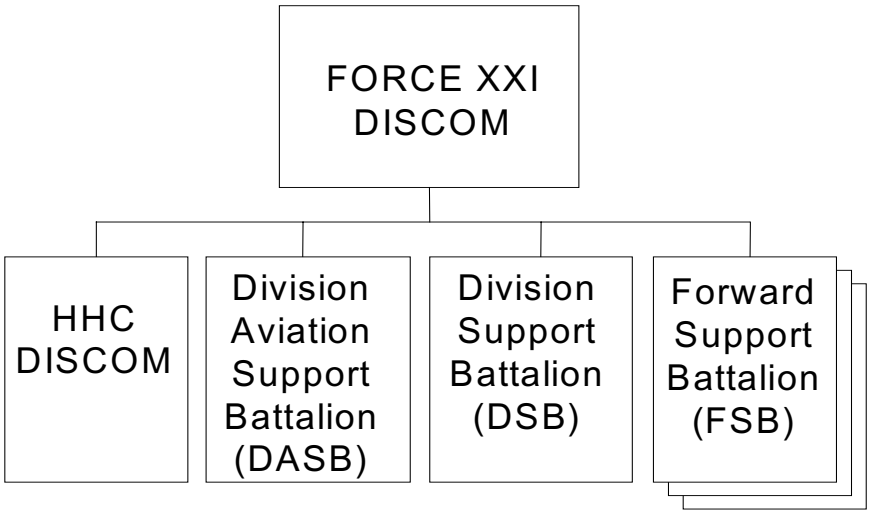


Figure 2-5. Force XXI DISCOM organization.

(1) Commands and controls organic and attached DISCOM units. It also monitors the operations of other units within its AOR.

(2) Based on the tactical situation and CSS requirements, the DISCOM may task the DSB, DASB, or FSBs to organize a tailored forward logistics element (FLE) to push critical supplies forward or rearward to a designated unit or location.

(3) Supervises and controls all division-level maintenance, materiel, and movement management operations.

(4) Advises the division commander, assistant division commander for support, and division staff concerning supply, maintenance, transportation, field services, CHS, and food service operations throughout the division.

(5) Monitors operations to determine the proficiency of the DISCOM and its attached units in the field.

(6) Organizes and synchronizes subordinate units' movements within the DSA IAW tactical plans. This function requires coordination with the rear operations center (ROC) concerning all DISCOM and supported units' current and proposed locations and movement.

(7) Trains its personnel and units.

(8) Coordinates and implements plans for assigned rear operations responsibilities in the DSA.

(9) Plans and executes augmentation procedures for subordinate units.

b. The DISCOM HQ (figure 2-6) continues to provide C^2 for all of its CSS organic and attached elements. It contains the HQ company, command section, traditional staff sections, unit ministry team (UMT), and support operations section.

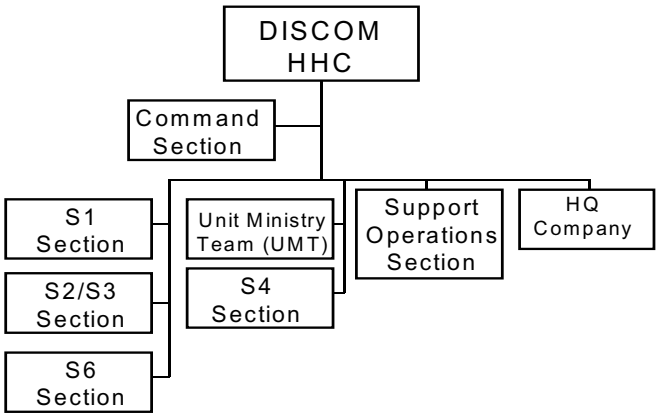


Figure 2-6. Force XXI DISCOM HHC.

(1) The division support operations section (figure 2-7) (previous DMMC structure) will allow managers, transportation coordinators, and operations planning personnel to plan and execute the division's support. All horizontal and vertical logistics coordination efforts within the division converge on the support operations section. A vital cell within this section, the distribution management center (DMC) provides overall total asset visibility (TAV) and in-transit visibility (ITV) for all commodities, movements, and units within, assigned to, or inbound to the division AO. The DMC serves as the "logistics fusion center" to collect and analyze TAV/ITV information. All support operations sections channel information to this section to improve the total distribution "pipeline" visibility.

(*a*) The support operations office's mission is to provide division units with centralized, integrated, and automated C^2 and planning for all division logistics distribution management operations. The support operations section ensures that supply, maintenance, transportation, and field services resources

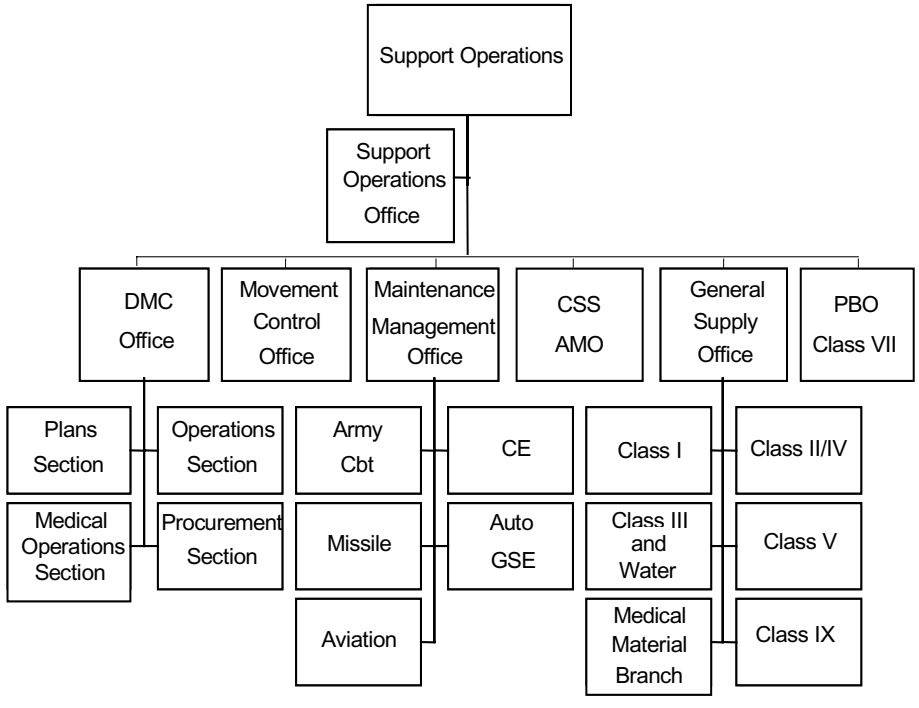


Figure 2-7. Force XXI DISCOM support operations.

are used efficiently and effectively. The support operations office also provides management support and direction to DISCOM assets that provide CSS. The support operations section will gather, input, and maintain supply point CSS data in the system. The section must also conduct the daily Standard Army Maintenance System—Version 2 (SAMS-2) and SARSS-1 download to the Combat Service Support Control System (CSSCS). Management includes planning, coordinating, and controlling available resources' allocation and use to fill the DISCOM commander's CSS requirements. The new division support operations office (previously called the DMMC) includes the—

- Maintenance management office.
- Distribution management center (DMC).
- CSS automation management officer (AMO).
- General supply office.
- Property book office (PBO) class VII.
- Movement control office.

(*b*) The DMC is a multifunctional organization within the support operations section that synchronizes the distribution flow within the overall distribution equation. The DMC has four branches—plans branch, operations branch, procurement branch, and medical operations branch. It provides the division support operations, the overall TAV and ITV for all commodities, movements, and units within, assigned to, or inbound to the division AO. It provides the single point of management integration and distribution synchronization for the DISCOM commander and the SPO. The cornerstone of successful distribution management is centralizing all echelons' management functions into the DMC. The DMC has staff supervision and tasking authority, as the commander delegates, to manage and control the distribution system for the materiel management center (MMC), movement control center (MCC), and medical logistics management center.

Synchronizing the "distribution components" is vital to the DMC. The DMC is the focal point for CSS pipeline control continuity. Situational awareness resulting from TAV allows the DMC to control materiel distribution, equipment, units, personnel, and services/soldier support services. The control the DMC provides integrates the various distribution functions into a more streamlined and efficient distribution system. It integrates the totality of strategic, operational, and tactical logistics capabilities to provide reliable, effective, and efficient distribution within the theater of operation. The DMC is organized within support operations (the single distribution manager) at the theater support command (TSC), COSCOM, and DISCOM levels under the battlefield distribution organization redesign. All external support is the Army's multifunctional CSS HQ support operations sections' responsibility. The DISCOM DMC—

- Focuses on current and future operations.
- Provides/manages supply and maintenance.
- Determines requirements for and manages supply distribution.
- Synchronizes materiel and movements with EAD.
- Provides centralized coordination and acts as the single logistics point of contact for the COSCOM/corps DMC.
- Resolves support crises and deconflicts requirements.

c. The DSB replaces the AOE MSB, but its functional capabilities are similar to the current division's. It consists of a headquarters and headquarters detachment (HHD), quartermaster (QM) company, division support medical company (DSMC), area support maintenance company (ASMC), and a transportation company. It provides medical support on an area basis to division rear area troops;

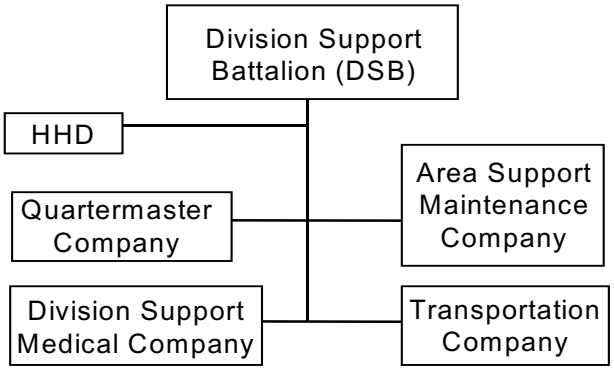


Figure 2-8. Force XXI DSB.

transportation support to the entire division; and DS supply and maintenance support to the division HQ, DSB, DISCOM HQ, DIVARTY HQ, multiple-launch rocket system (MLRS) battalion (bn), air defense artillery (ADA) bn, MI bn, signal bn, and MP company. The DSB provides limited reinforcing support [class III(b) and transportation only] to the FSBs and DASB and not umbrella support for the other classes of supply. The current MSB will lose a maintenance company and its division warehousing capabilities when converted to the Force XXI DSB (figure 2-8). When augmented, the DSB provides field services and water purification, storage, and distribution.

(1) The HHD commands and controls organic and attached units and manages distribution for all division rear supply and services support. It also provides food service support for DSB organic and attached units. It supports division customers by providing or coordinating to provide all classes of supply as well as maintenance, medical, and field services.

(2) The QM company (figure 2-9) provides DS supply to the division troops the DASB does not support. This includes the division HQ, DSB, DISCOM HQ, DIVARTY HQ, MLRS bn, ADA bn, MI bn, signal bn, and MP co. Additionally, the QM co provides limited class III(b) reinforcing and resupply support to the FSBs and DASB. The QM co will receive, store, and issue class II, III(b), III(p), IV, and IX (less air). It receives and issues classes I and VI at the field ration issue point daily, and receives and issues class VII at the supply support activity (SSA) as required. Water support now requires corps augmentation. The fuel platoon provides class III(b) support to division troops in the DSA and limited reinforcing support to the FSBs and DASB. It can store fuel on the ground using a fuel system supply point (FSSP). Mortuary affairs (MA) and water support require corps augmentation. The QM co's maintenance section provides organic maintenance for itself and the HHD.

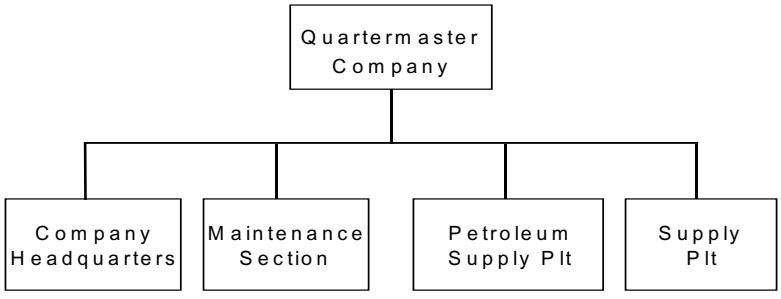


Figure 2-9. Force XXI DSB QM company.

(*a*) The supply platoon HQ supervises all supply distribution [less III(b), V, VIII, and IX-air] coming to or passing through the DSB. The supply platoon operates the supply points from which division and attached units in the DSA draw class I, II, III(p), IV, VI, VII, and IX supplies. This section operates the SARSS-1 for the QM co. Class II, III(p), and IV requests are received via ULLS-S4 and class VII via the Standard Property Book System—Redesigned (SPBS-R). Class IX requests are received via the ULLS-G located with various units and the SAMS-1 that is located in the ASMC.

(*b*) The petroleum platoon establishes and operates the class III(b) point in the DSA. It provides supply point distribution for the division troops and has unit distribution capability to division troops as required. It provides vehicles and personnel for limited class III(b) reinforcing support/delivery forward to the FSBs and DASB as required. It can store fuel on the ground using a fuel system supply point (FSSP) and conduct refueling on the move (ROM) operations. The petroleum platoon's organic equipment must be able to maintain 24-hour operations. This unit is equipped with a movement tracking system (MTS) to increase its support assets' control and efficiency.

(3) The area support maintenance company (ASMC) (figure 2-10) provides DS-level maintenance to division troop units, the DIVARTY HQ, and other elements operating in the division rear area. The ASMC provides DS-level maintenance support from the base maintenance shop or from its modular maintenance support teams (MSTs). The ASMC provides unit-level maintenance for itself and the HHC DISCOM. All other division troop and field artillery (FA) units retain their organic unit maintenance sections. The DASB ground maintenance company (GMC) supports the AB and division cavalry squadron. The ASMC consists of a company HQ, a maintenance control section (MCS), a base shop platoon, and a forward repair platoon.

(*a*) The company performs—

- DS-level maintenance for division troop units.
- Technical assistance for division troop units.
- Limited line replaceable unit (LRU) repair.
- CE equipment base shop repair.
- Quality assurance/quality control inspections.
- Technical assistance inspections when required.
- Onsite maintenance for the ADA, signal, MI, and MLRS battalions.
- Division integrated family of test equipment repair.

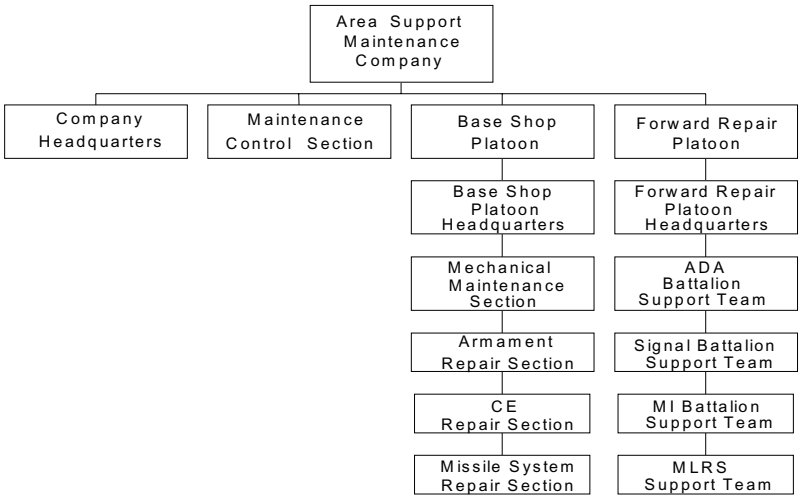


Figure 2-10. Force XXI DSB ASMC.

(*b*) The base shop platoon HQ commands, controls, and supervises the platoon. The platoon consists of a mechanical maintenance section, an armament repair section, a CE section, and a missile system repair section.

(*c*) The forward repair platoon HQ provides C^2 and overall supervision of the platoon maintenance support teams (MSTs). The platoon consists of an ADA battalion support team, a signal battalion support team, an MI battalion support team, and an MLRS support team.

(4) The transportation company (figure 2-11) provides heavy digitized division truck transportation for distributing and redistributing all classes of supplies via flatracks and/or general cargo transport, moving personnel, evacuating/relocating tracked vehicles, retrograding materiel and equipment, moving 20-foot containers, tactically relocating/displacing units, and relocating ammunition transfer points (ATPs) and for DS of maneuver units engaged in offensive or defensive operations. The company is comprised of an HQ section, three tactical truck platoons, a heavy equipment transporter (HET) truck platoon, and a maintenance section. Specifically, it—

- Transports class I, II, III(p), IV, and IX supplies within the division area.
- Moves heavy and outsized vehicles and cargo.
- Assists in displacing division elements with less than 100-percent mobility.
- Evacuates nonstandard mass casualties.
- Transports personnel replacements.
- Transports EPWs or displaced civilians.
- Evacuates remains.
- Transports a mobile logistics element for the divisional calvary squadron.
- Transports and distributes water in an arid environment.
- Retrogrades captured equipment.

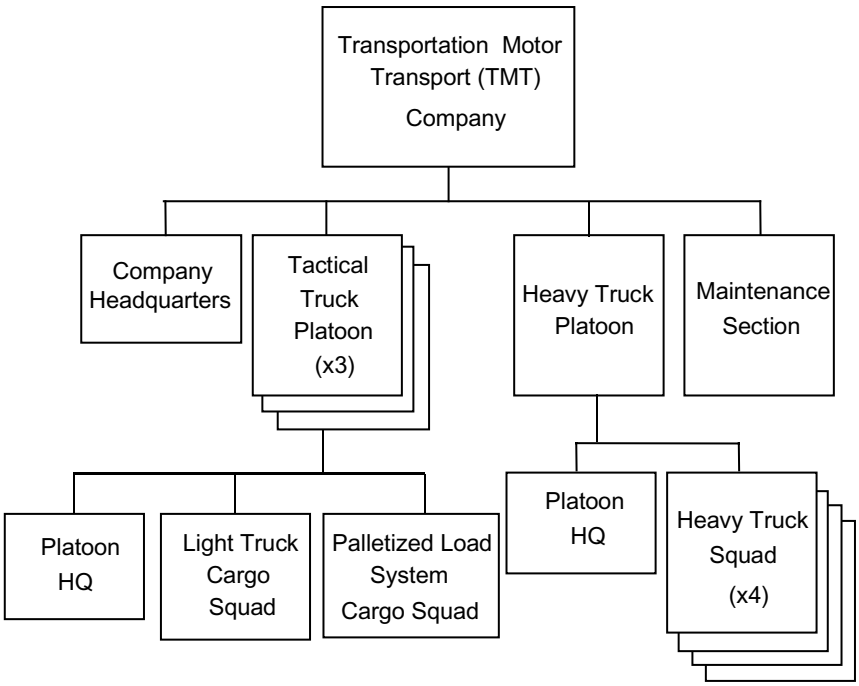


Figure 2-11. Force XXI DSB TMT company.

(5) The division support medical company (DSMC) (figure 2-12) continues to provide echelon I and II support, including medical supply, treatment teams, and evacuation, for the elements operating within the division rear area. These elements include, but are not limited to, division troops, the DSB, DASB, MLRS battalion, division cavalry squadron, and AB. This unit provides the same functions listed for the FSMC; however, the DSMC also provides optometry, a division medical supply office (DMSO), and three additional treatment teams. The DSMC depends on appropriate corps and division elements for patient evacuation, including air ambulance; CHS operations planning guidance; and legal, financial, personnel, and administrative services. It also depends on the DSB HHD for food service and religious support. The DSMC is organized into a company HQ, a treatment platoon, an ambulance platoon, an optometry section, a preventive medicine (PM) section, and a mental health section.

(*a*) The treatment platoon operates the DSMC clearing station. It receives, triages, treats, and determines patient disposition based on their medical conditions. This platoon provides professional services in minor surgery, internal medicine, general medicine, and general dentistry. In addition, it provides basic diagnostic laboratory and radiological services and patient holding support. The treatment platoon is composed of a platoon HQ, an area support section, and a treatment section.

(*b*) The ambulance platoon performs ground evacuation and enroute patient care for supported units. The ambulance platoon consists of a platoon HQ, 5 ambulance squads, 1 high-mobility multipurpose wheeled vehicle (HMMWV) control vehicle, and 10 HMMWV ambulances.

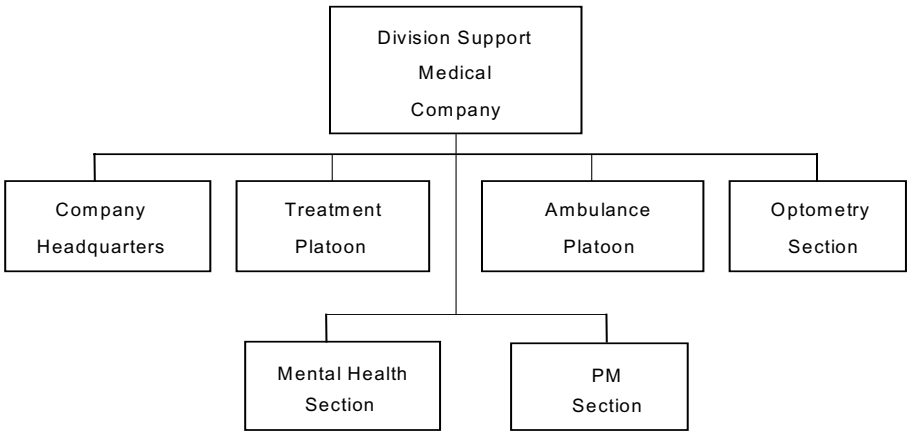


Figure 2-12. Force XXI DSB DSMC.

CHAPTER 3

CORPS-LEVEL LOGISTICS

3-1. INTRODUCTION

a. General. FM 63-3 and FM 54-30 provide detailed information on the COSCOM's and corps support group's (CSG's) organizations, missions, and functions, respectively. The COSCOM provides logistics support to the corps. It enables the corps to sustain high levels of combat over the entire spectrum of war for the duration of its major operations. Its battlefield support mission enables the corps commander to generate combat power at the decisive time and place. The COSCOM does this by—

- Arming corps weapon systems.
- Fueling stationary equipment, tracked/wheeled vehicles, and aircraft.
- Fixing damaged equipment.
- Moving soldiers, equipment, and supplies about the battlefield.
- Sustaining the soldier.
- Protecting the support structure.

b. Supporting the corps battle. The COSCOM maintains the support structure and supply levels to sustain the corps. It may support either a forward-deployed corps in an established theater of operations or a contingency corps force deployed to an underdeveloped theater.

c. Support AO and depth of support. The corps AO encompasses an area of roughly 100 by 210 KM or 21,000 square KM (see figure 3-1). These distances extend the lines of support. The COSCOM habitually employs units farther forward than it ever did in the past. Units that previously employed closer to the corps rear boundary now employ forward near division rear boundaries. Units that employed forward in the corps rear area now employ in the division AO. By also maintaining resources in depth, the COSCOM can weight the battle for the corps commander by realigning its resources throughout the corps area following corps priorities of support.

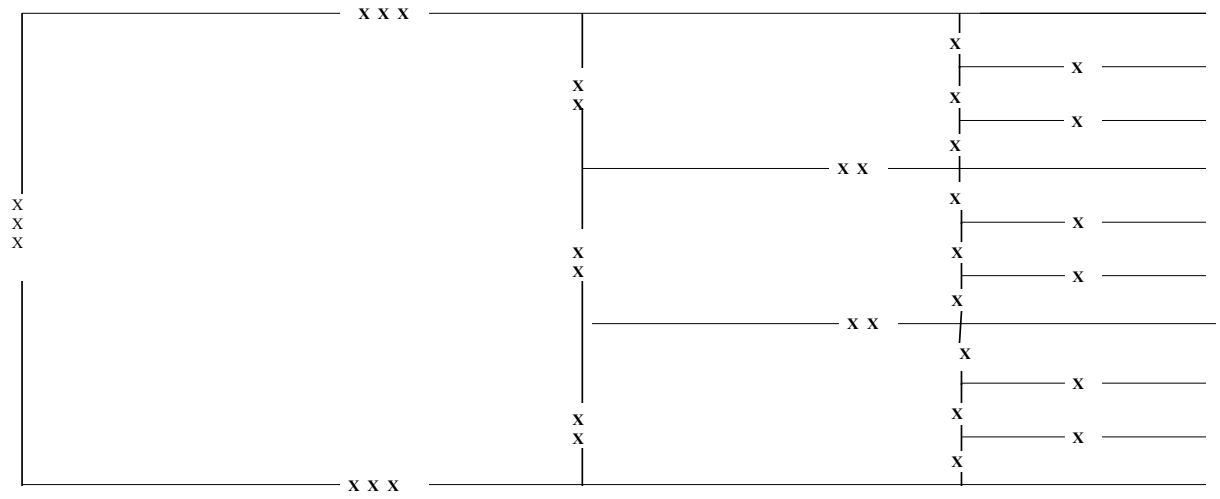


Figure 3-1. The corps battle area.

3-2. COSCOM SUPPORT MISSION AND FUNCTIONS

a. General. The COSCOM provides logistics support to the corps and, when directed, to either a unified, specified, joint, or combined force. The latter support occurs when the corps forms senior US Army command in the theater. The COSCOM executes the corps support plan. The COSCOM provides—

- DS and GS supply support to nondivision units and GS supplies to divisions, separate brigades, and armored cavalry regiments (ACRs). Supply support includes ammunition; class III; water (GS in arid regions); classes I, II, and IV; repair parts; major end item replacement; airdrop; and reinforcing supply support to each MSB/FSB/DASB.
- Service support, including MA; shower, laundry, and clothing repair (SLCR); and tactical post exchange.
- DSM and AVIM to nondivision units; reinforcing DSM and AVIM to divisions, separate brigades, and ACRs; and missile-rocket maintenance support.
- Transportation support, including mode operations, movement control, terminal operations, cargo transfer operations, and airdrop support.
- Medical treatment, hospitalization, evacuation, logistics, patient regulating, and medical services support.

b. Corpswide support. COSCOM logistics elements position in depth to minimize the effect of threat attacks on the overall logistics effort and allow for weighting the corps commander's efforts to gain and maintain the initiative. COSCOM functional battalions provide corpswide support. Transportation battalions provide intra- and intercorps transportation support. The petroleum supply battalion, ammunition battalion, and S&S battalion provide class III, V, and general supplies corpswide, respectively, supplying the bulk distribution systems. The S&S battalion also provides corpswide MA, airdrop, and SLCR support. The AVIM battalion provides corpswide AVIM support. In an arid region, the water supply battalion provides potable water throughout the corps area.

c. Area support. Area support is the most efficient and affordable way to provide support. CSGs provide area support to all customers located in or transiting their AOR. Their ability to provide this support must grow as the supported force grows. The COSCOM assigns area support missions to its subordinate CSGs. CSG subordinate direct support units (DSUs) support, on an area basis, units located in or passing through their AOR. Medical brigade medical groups provide level I and II CHS on an area basis to nondivisional units lacking organic CHS and reinforce division level II CHS. Unlike dedicated unit support, area support unit workloads depend on corps maneuver and positions of units requiring support.

(1) *Within the division area*. The COSCOM normally provides area support to nondivision units whether they employ in the corps rear area or in the division area. This precludes generating an excessive workload on DISCOM MSB/FSB/DASB and provides a single support point of contact for supported units. However, nondivision units employed in the division area, which could number around 8,000 soldiers in a heavy division AO, may receive area support in one of several ways.

- From the DISCOM MSB/FSB/DASB, but only within the DISCOM's capabilities. This normally occurs when the number of nondivision troops and their support requirements are very limited (one or two battalion equivalents).
- If the nondivision requirements exceed DISCOM capabilities, the COSCOM could augment the MSB/FSB/DASB with corps assets to enable the DISCOM to provide area support to the nondivision units. This support arrangement limits the number of support locations that must be established within the division area.

- Finally, the COSCOM normally supports nondivision units deployed within division boundaries, of the number noted above, through a forward corps support battalion [CSB (fwd)] providing area support in the division area. The CSB (fwd) establishes forward logistics points in each MSB, FSB, and DASB area through coordinating with the appropriate terrain managers.

(2) *Within a new division area*. When nondivision units move to a new division area, area support continues in the same manner as described from the new DISCOM and CSB. Assets from the previously supporting CSB and CSG may accompany the nondivision units to their new AO.

d. Out-of-sector support. When nondivision units move to a new corps AO, area support continues. Support requirements and assets are coordinated and transferred as required. When corps units move out of an Army AO, a different method of support is used. The COSCOM forms a support element, usually a CSB TF, to accompany the corps units to the new AO. Its size and composition vary depending on the destination. The TF supporting corps forces in a sister service or allied area is normally larger and more diverse than one supporting in a new corps area. The TF supporting in an allied AO normally must be able to support all corps force requirements, including medical evacuation. In the case of either a sister service or allied area, a reliable and responsive line of support and transportation network must be established to supply the support TF. Area support may also be required along the route of march, including refueling on the move (ROM) and maintenance and recovery/evacuation assistance.

e. Mission support to other services and allies. The COSCOM provides logistics support to other services and allies taking part in a joint or combined operation. It routinely provides JP-8 to the Air Force. It may provide food, water, common ammunition items, MA services, petroleum laboratory support, and ground transportation support to Marine amphibious forces, Navy elements operating ashore, and the Air Force. Based on agreements with allied nations, the COSCOM may support a host of requirements common to both parties.

3-3. COSCOM SUPPORT ORGANIZATION

a. General. The COSCOM support organization depends on the number of soldiers to support, the number and types of weapon systems to repair, and the tonnage of supplies to issue and transport. As figure 3-2 shows, the COSCOM consists of an HQ and special troops battalion, functional control centers, a variable number of CSGs, a medical brigade, and a transportation group under certain conditions.

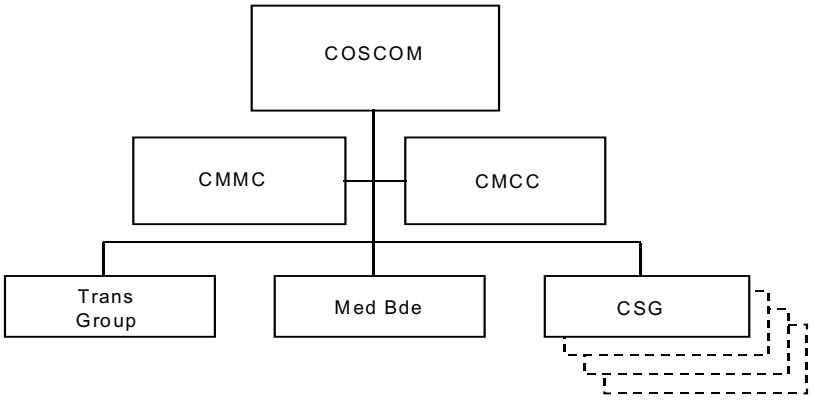


Figure 3-2. COSCOM organization.

The corps commander assigns or attaches units to the COSCOM. The number and types of units vary based on the corps force's logistics requirements. The COSCOM further attaches units to its MSCs. The corps commander may attach civil affairs or chemical units to the COSCOM's HQ and special troops battalion. To effectively support the theater commander's operational plans, the TA commander may attach logistics units to the COSCOM from TA resources, including theater army area commands (TAACOMs).

b. Functional control centers. Functional control centers implement COSCOM policies and directives. The corps materiel management center (CMMC) centrally manages and controls supply and maintenance. The corps movement control center (CMCC) provides centralized movement management and highway regulation for the corps. The centers task COSCOM subordinate units.

3-4. CORPS SUPPORT GROUPS

a. General. CSG HQ provides C^2, staff planning, and supervision for three to seven subordinate logistics battalions. The COSCOM task organizes CSGs to meet the supported forces' needs based on the scheme of maneuver the corps G3 establishes and the CSGs' forward or rear employment missions. While there is no standard CSG organizational structure, the forward CSG consists of multifunctional CSBs providing direct and general support. The rear CSG consists of one or more CSBs providing DS and functional battalions providing GS.

b. Forward CSGs. Forward CSGs serve as the source of logistics support (less medical) for all corps organizations within their AOR. They provide DS and GS on an area basis to nondivision forces operating in the division AO, either directly through a CSB or indirectly by augmenting or reinforcing each MSB/FSB/DASB. They provide area support to nondivision units behind the division's rear boundary, and GS supply and reinforcing DSM and field services support to divisions, separate brigades, and ACRs. Usually one forward CSG is allocated per committed division AO. A typical CSG (fwd) is shown in figure 3-3.

(1) Each forward CSG employs a tailored CSB in the division area to provide responsive support to forward-employed nondivision forces. Unlike the DISCOM's fixed-structure MSB and FSB supporting division elements, the CSB is task organized to provide DS-level supply, services, and maintenance support to corps forces operating in the division area. The CSB reduces the command, control, and communications problems caused by long distances between supported nondivisional elements and supporting corps units otherwise located in the corps rear area. Though employed in the division area and merged with division bases or base clusters for rear operations security, the CSB remains under the forward CSG's command and control. Terrain management and highway regulation are coordinated with the division. Typical CSB structures for forward and rear CSBs are shown in figure 3-4.

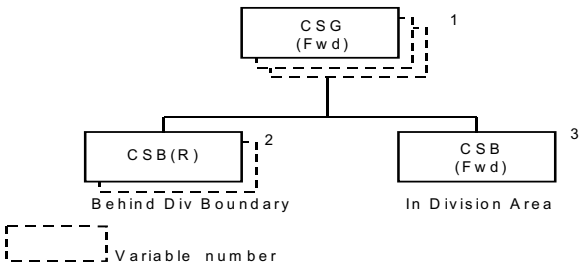


Figure 3-3. Typical CSG (Fwd) organization.

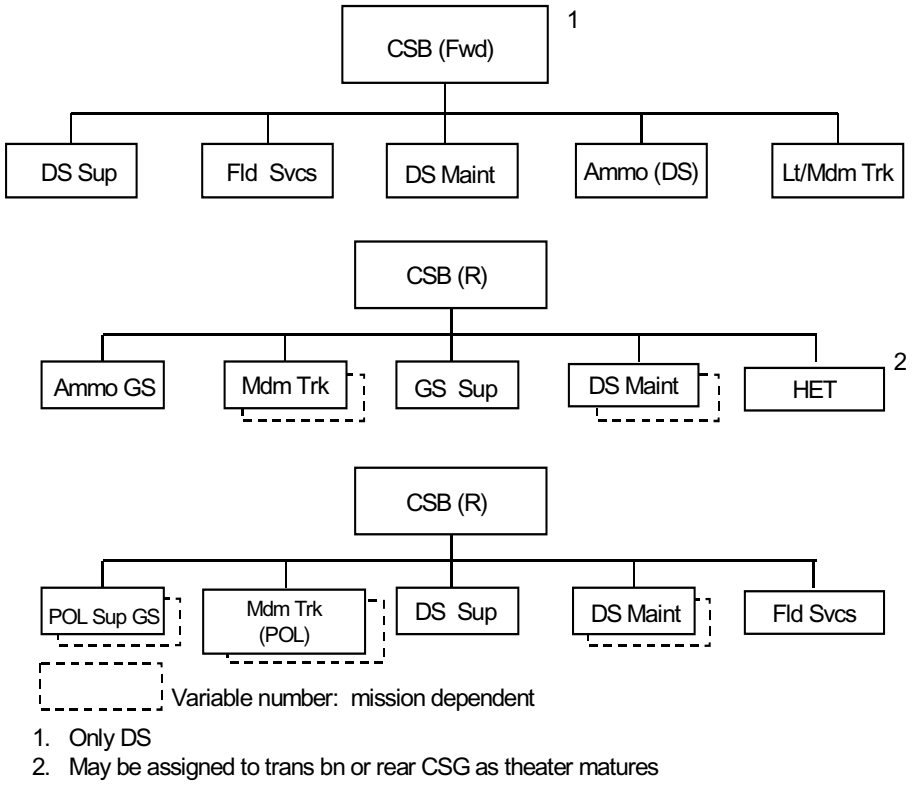


Figure 3-4. Typical CSB (forward and rear) organizations.

(2) The remaining CSBs of each forward CSG are employed behind the division rear boundary. They consist of both GS- and DS-level units to support nondivision forces in their assigned AOR as well as provide GS and reinforcing DS to the division, any separate brigades, and the ACR if employed in their AOR. One of these CSBs can provide the nucleus to support reconstitution operations.

c. Rear CSG. A rear CSG (figure 3-5) is allocated per COSCOM. The rear CSG provides corpswide support and reinforcing support to the forward CSGs. Like the forward CSGs, it provides area support to units employed in or passing through its AOR. It can also provide the nucleus of logistics reconstitution support in the corps rear area. The rear CSG may consist of multifunctional CSBs, functional battalions, and a base support battalion.

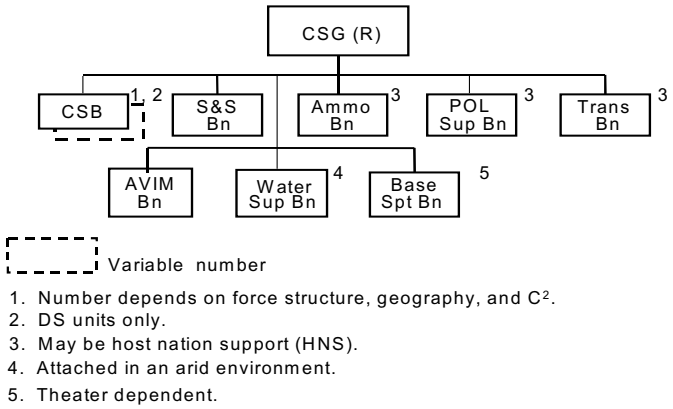


Figure 3-5. Typical CSG (rear) organization.

(1) The rear CSG's CSBs provide DS-level area support to units in or passing through its AOR. These include hospitals, replacement units, signal units, corps HQ elements, and corps units supporting a reserve division. A CSB may also be tailored to provide reconstitution support in the corps rear area.

(2) The rear CSG's functional battalions provide corpswide logistics support to divisions, separate brigades, and ACRs as well as reinforcing support to the forward CSGs. The petroleum supply battalion, ammunition battalion, and S&S battalion maintain the corps reserve stocks. These stocks enable the corps commander to support combat and provide the surge capability to win in battle. The transportation battalions support the supply and replacement distribution systems. The AVIM battalion provides corpswide AVIM support and reinforcing AVIM and AVUM. In an arid environment, a water supply battalion provides corpswide GS-level water supply. These functional battalion headquarters are employed primarily for C^2 purposes within its functional area but may contain companies that are not specific to its logistics function. The COSCOM commander ultimately determines what functional battalions will command what corps logistics units based on METT-TC. An example of what some of these functional battalions may consist of is shown in figure 3-6.

(3) Theater dependent, a base support battalion maintains facilities in caretaker status for future reactivation to provide base operations support.

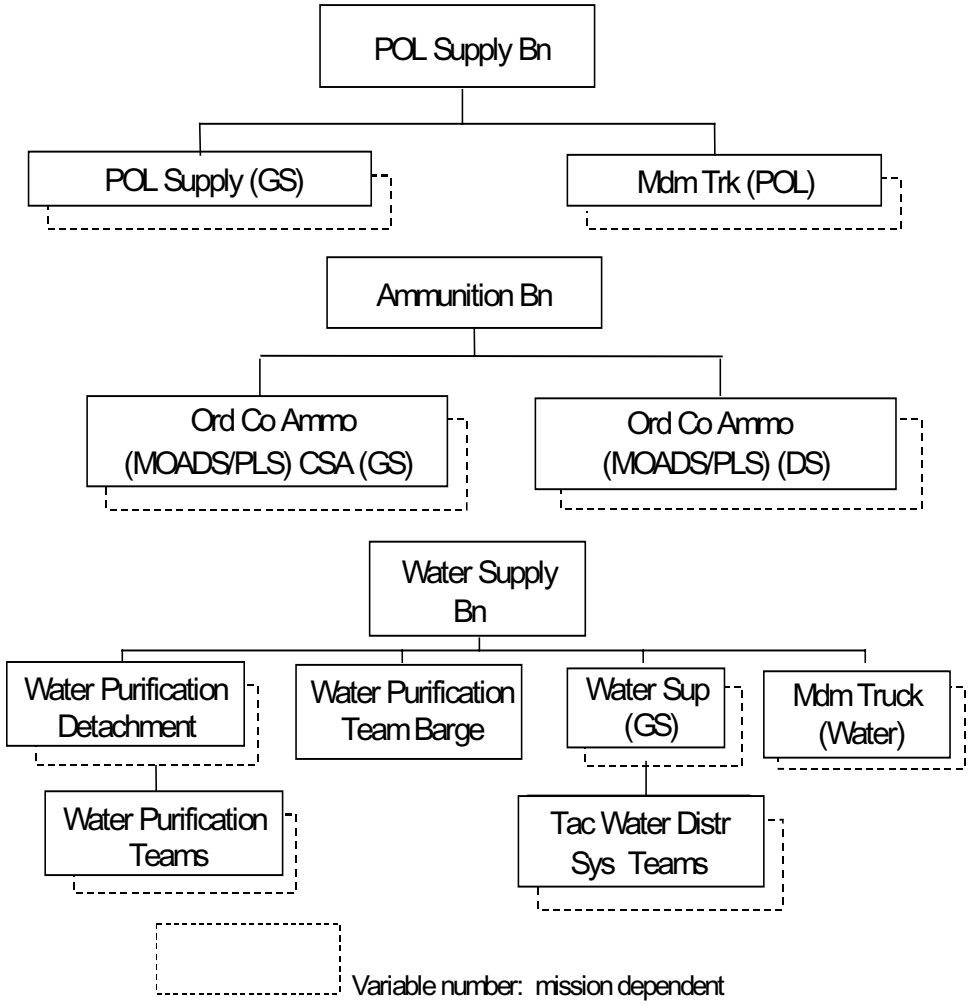


Figure 3-6. Functional battalion organizational examples.

d. TA dependence. The COSCOM depends on TA general support units (GSUs) (heavy materiel supply companies, repair parts supply companies, and general supply companies) to resupply its subordinate GSUs. This dependence is particularly significant during reconstitution operations when the CMMC will arrange for push packages of class VII items and class IX repair parts required specifically for the units being reconstituted. The COSCOM also depends on TA transportation assets to supplement the corps transportation system assets. It depends on the general support maintenance (GSM) units to repair items beyond DSM unit capability for return to the supply system. It also depends on the medical brigade assets for CHS echelon I, II, and II care. If the CMMC's automation capability is disrupted, the COSCOM may depend on the theater army materiel management center (TAMMC) or TAACOM MMC, as written in the operation plan (OPLAN), for continuity of operations.

3-5. TRANSPORTATION GROUP

A transportation group could be assigned to the COSCOM to provide C^2 and staff planning if three or more functional transportation battalions are included in the corps force structure. The number of transportation battalions in the force structure is normally based on the number of truck and terminal operating units providing corpswide support under the rear CSG, not on those assigned or attached to forward CSGs.

3-6. MEDICAL BRIGADE

The medical brigade provides level I, II, and III treatment; hospitalization; evacuation; logistics; patient regulating; preventive medicine (PM); and psychiatric, laboratory, dental, and veterinary support to the corps. The medical brigade HQ task organizes the corps' medical assets to meet the patient workload and CHS requirements corps forces may generate during each corps operation. Medical assets are task organized under subordinate medical groups normally employed geographically in the corps rear area and directly under the brigade HQ. The medical brigade mission, functions, and organization are covered in more detail in chapter 9, section II. Under current AOE doctrine (FM 63-3), the medical brigade is subordinate to the COSCOM, but through emerging doctrine, this command relationship may change.

Within the Army's Medical Reengineering Initiative, the new medical brigade (previously the AOE medical group) will report directly to the corps medical command (MEDCOM) (previously the AOE medical brigade). The MEDCOM will report directly to the corps. This concept was approved in 1996, and tables of organization and equipment (TOEs) were approved to support the concept. However, the concept has not yet been written into doctrine (FMs 100-10 or 63-3). In reality, our two active duty medical brigades are not assigned to the COSCOM, although current AOE doctrine states otherwise. Until the US Army Combined Arms Support Command (CASCOM) updates the appropriate FMs, the medical brigade is part of the COSCOM.

3-7. FINANCE GROUP

The finance group (FG) (figure 3-7) provides finance support to a corps. The FG commander is responsible for those operational and tactical tasks that support the corps. The FG provides finance support to all Army, joint, and multinational commands, units, soldiers, and authorized civilians located within the corps boundary. If there are no distinct boundaries on a nonlinear, noncontiguous battlefield, the FG commander faces an even greater challenge of providing effective finance support. The FG will provide C^2 staff planning, and supervision for all assigned finance units in the corps area. The FG has a modular, tailorable design to support the variations of forces required to conduct finance operations in the corps area.

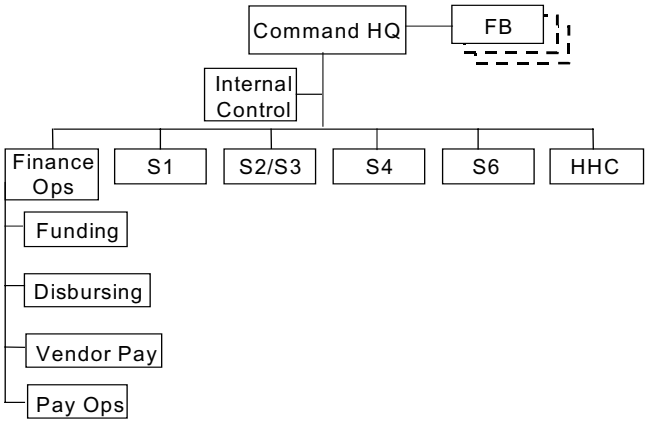


Figure 3-7. Finance group (FG).

3-8. PERSONNEL GROUP

The personnel group (figure 3-8), like the FG, is a separate corps MSC that is not assigned, attached, or OPCON to the COSCOM. The personnel group sustains the corps by providing manning and personnel service support (PSS) to corps units, divisions, separate brigades, and ACRs attached to the corps. The personnel group commander is dual-hatted as both the group commander and the corps adjutant general (AG). The personnel group is a modular organization tasked organized to support mission requirements. Generally, it has one personnel battalion habitually providing DS to each division and one personnel battalion to support corps units. The manning function is covered in greater detail in chapter 8 and the PSS is covered in chapter 9.

3-9. SUPPORT TO DIVISIONS, SEPARATE BRIGADES, AND ACRs

DISCOMs, support battalions, and regimental support squadrons provide most of the required logistics support. However, they depend on the COSCOM for GS-level supplies, medical supplies, evacuation and reinforcing medical treatment support, reinforcing DSM and AVIM, transportation and airdrop support, MA support, and secondary field services support (such as SLCR). MSBs and FSBs rely on COSCOM and medical brigade augmentation or reinforcement to support divisional and nondivision units employed in their areas. In many cases, COSCOM support is in the form of a forward logistics element (FLE).

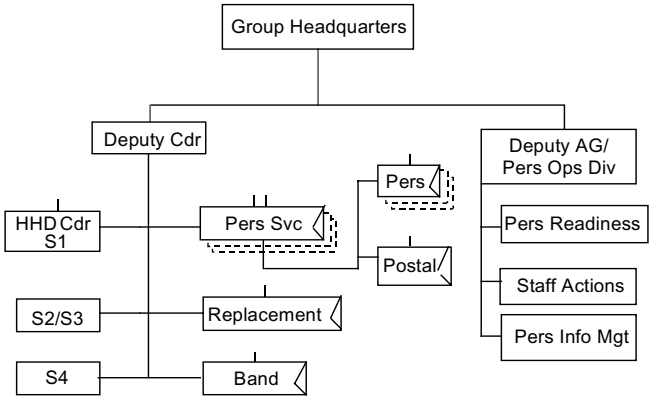


Figure 3-8. Personnel group.

FLEs provide a responsive means to get critical support to corps forces. They may be used to help shape the battle as corps forces employ forward of the division. The FLE's composition varies based on METT-TC and supported forces' requirements. Establishing FLEs in staging areas supports pursuit and onward movement. FLEs can also form the basic core of a TF tailored to accompany forces, such as a corps FA brigade, operating in a non-US Army corps or supporting an ally or sister service. The CSG or CSB staff coordinates reinforcing requirements with the DISCOM and supporting FSB. Each FLE is OPCON to the base commander (FSB, MSB) for security and positioning.

3-10. SUPPORT TO HEAVY DIVISIONS

Corps transportation assets deliver GS-level supplies to division DSU supply points and maintenance units. Division units go to their supporting supply point to pick up their supplies. In contrast, the COSCOM delivers class IV barrier or fortification material directly to emplacement sites and aviation fuel directly to division and corps aviation elements. When necessary, the corps airdrops critical fuels, ammunition, repair parts, rations, and blood supplies.

COSCOM DSM units or AVIM units provide reinforcing maintenance support to division DSM and AVIM units. The corps G4 determines the priority of maintenance support. The COSCOM may attach MSTs to a division, separate brigade, or ACR.

DS field services companies provide SLCR support to division as well as nondivision troops. The collection company in the BSA and DSA will establish a forward collection point to begin the MA collection and evacuation process.

Corps ambulances evacuate patients from division treatment stations to corps hospitals. The medical brigade provides reinforcing treatment, dental, and PM support. The medical logistics (MEDLOG) battalion (forward) builds prepackaged resupply sets of consumable medical supplies to support division requirements.

In addition to supporting the supply distribution system from the corps GS level to division DSUs, corps truck units support personnel and heavy equipment movement and cargo transfer operations in the division.

3-11. SUPPORT TO LIGHT DIVISIONS

a. General. The light infantry division (LID), airborne division, and air assault division require more logistics support from the COSCOM than heavy divisions. These divisions perform only essential logistics support and CHS functions and stock only mission-essential supplies with their organic assets. They depend heavily on corps and echelon-above-corps (EAC) units to provide resupply to the DISCOM, reinforcing DSM, transportation, medical support, SLCR, and airdrop support.

(1) The LID requires more throughput from the corps rear area to the BSA due to the MSB's limited capability to resupply FSBs. However, the COSCOM cannot throughput too many supplies or it will overwhelm the LID's limited ability to move assets around the battlefield.

(2) Light division maintenance support and capabilities are limited. They rely on component replacement versus repair and pass an increased maintenance workload to nondivision DSM units.

(3) LID and airborne divisions place heavy transportation requirements on the COSCOM for personnel, cargo, and airdrop support.

(4) The corps medical brigade provides CHS augmentation, including positioning medical evacuation assets forward.

b. LID augmentation. Although the LID was designed for military operations other than war (MOOTW) and was limited on total personnel, projected combat intensities quickly drive support requirements beyond the LID DISCOM's organic capabilities. Specific COSCOM elements have been designed or identified to perform required functions to offset these excessive workloads. This augmented support, over and above the normal COSCOM support organization, is sometimes referred to as the "corps slice." The following corps teams, detachments, and platoons augment the LID support organization:

(1) The LID quartermaster (QM) supply support detachment provides materiel management support functions and performs data processing-related processes beyond the LID's organic capabilities. It may either collocate with the CMMC or the LID's DISCOM.

(2) The light/medium truck company offsets the driver shortfall in the LID that results from allocating only one driver per vehicle for single-shift operations.

(3) The LID missile support team from the corps DS missile support maintenance company augments the division missile support capability. LID missile maintenance support is limited RX with repairs being performed at corps.

(4) The LID AVIM support team is attached to a COSCOM AVIM company to offset an estimated 21 percent of the AVIM workload passed back to the corps.

(5) The LID MST augments an estimated 20 percent of the ground maintenance workload passed back to a nondivision DSM company providing DS to a LID.

(6) The perishable subsistence platoon assigned to the COSCOM general supply company augments the LID's MSB, providing A- and B-ration storage and issue capability.

(7) The LID graves registration team augments the MSB. This team can process 79 remains per day, perform search and recovery as required, and operate a collection and evacuation point. Fielding the corps MA collection company will eliminate this augmentation.

(8) The hot/arid environment water team provides potable water storage and distribution system assets in arid regions.

3-12. SUPPORT TO SEPARATE BRIGADES AND ACRs

Similar to support to divisions, the COSCOM provides GS supply, reinforcing DSM, field services, and transportation support to separate brigades and ACRs. The medical brigade provides appropriate CHS as discussed earlier. When one of these corps forces employs before a corps-sized force, forward CSG elements deploy to provide support. The support could consist of an FLE formed by a forward CSB or a fully tailored CSB, depending on the force's requirements. In either case, a forward CSB and the CSG provide all required DS- and GS-level support, including heavy-equipment transport (HET) movement support to the separate brigade or ACR.

If a separate brigade or ACR deploys in an allied force area adjacent to US forces, forward CSG/CSB support elements from the adjacent US forces provide out-of-sector support. They may support from their sector if an adequate line of support can be established, or they may deploy with the corps force to augment the support battalion or squadron capabilities.

3-13. HOST NATION SUPPORT (HNS)

HNS includes civilian and military support services the host nation (HN) furnishes to forces stationed on HN territory during peace and war. HNS offsets manpower, equipment, and supply requirements. It is the preferred method of meeting unsatisfied military support requirements. In times of crisis, using HNS will significantly reduce the time required to deploy and establish US reinforcing units.

The two categories of HNS that offset US requirements are direct HNS and indirect HNS. Direct HNS consists of HN military or paramilitary units organized similarly to US units. This HNS relates to comparable US organizations and capabilities. Indirect wartime HNS refers to support that is anticipated based on agreements with the host country. The type and volume of HNS services provided will depend on agreements between the nations involved and the host nation's actual capabilities. Unless other provisions apply, the United States will reimburse costs.

Due to the proximity of combat operations, only the HN military should perform some HNS functions. HN civilian firms may provide bath, laundry, and bakery services. HN buildings and facilities, as well as transportation and distribution systems, can offset logistics support requirements, particularly in port areas. The COSCOM Assistant Chief of Staff (ACofS), Support Operations Procurement Support Branch, should consider these areas when planning and requesting HNS. He should conduct a risk assessment to determine the impact should planned logistic area HNS not be available.

The COSCOM ACofS, Support Operations Procurement Support Branch, personnel manage and coordinate HNS the host nation has negotiated and agreed upon in peacetime and is expected to provide in wartime to support the COSCOM's logistics mission. The COSCOM ACofS, G5 section, personnel manage and coordinate available HNS for COSCOM units. As appropriate, section personnel manage and coordinate any additional ad hoc HNS the appropriate HN authorities have agreed upon. They coordinate requirements with civil affairs teams, the corps G5, and subordinate CSGs.

To support contingency operations, an HNS coordination team (contingency) can be assigned to the task force's senior logistics HQ. This team locates, obtains, and coordinates available HNS resources. It coordinates closely with the civil affairs organization operating with the contingency force. The team obtains HNS resources through local purchase or contracts and coordinates with finance and legal activities to execute HNS contracts.

3-14. LOGISTICS CIVIL AUGMENTATION PROGRAM (LOGCAP)

LOGCAP is a US Army initiative for peacetime planning using civilian logistics contractors in wartime and other contingencies. Contractors perform logistic services to support US forces that support Department of Defense (DOD) missions. Contractors in a theater of operations allow military units to be released for other missions. LOGCAP provides the Army with additional means to adequately support the current and programmed forces. Some of the LOGCAP capabilities are operational logistics planning; constructing base infrastructure—billeting, mess halls, food preparation, potable water production, sanitation, showers, laundry, transportation, and utilities; and other services such as MA, postal, banking, etc.

LOGCAP is designed to be used in areas where there are no bilateral or multilateral agreements. LOGCAP provides additional support in areas with formal HNS agreements, where other contractors are involved, or where peacetime support contracts exist. LOGCAP is available during CONUS mobilizations to assist the CONUS support base and help units get ready for deployment.

The primary LOGCAP reference is US Army Materiel Command Pamphlet 700-30. Army Regulation 700-137 promulgates LOGCAP. The Headquarters, Department of the Army (HQDA) Office of the Deputy Chief of Staff for Logistics (ODCSLOG) is the Department of the Army (DA) proponent for

LOGCAP. The Army Materiel Command's Office of the Deputy Chief of Staff for Logistics and Operations is the program manager.

3-15. JOINT OPERATION SUPPORT

Corps forces can operate as part of a joint task force (JTF). As the corps logistics command, the COSCOM supports corps units conducting joint operations. While each military service provides its own logistics support in principle, the JTF commander normally tasks the dominant user to provide or coordinate support for all service components. The commander in chief (CINC) allocates critical logistics assets among services and issues directives to transfer logistics functions among service components.

3-16. COSCOM CONTROL CENTERS

a. The CMMC centrally controls all GS supply within the corps. It also manages DSM support operations. CMMC commodity managers centrally manage specific supply class stocks. Materiel managers provide consolidated materiel management for specific commodities. They manage supply classes by exception using selective controls. Commodity managers compile, interpret, and report data to the appropriate logistics branch in the COSCOM's support operations section. Centralized management uses input from automated management information systems and communications to interface with the movement control center (MCC). FM 54-23 provides additional information on the CMMC.

(1) *CMMC mission.* The CMMC performs integrated materiel management for the corps for all classes of supply [except medical supply, classified communications security (COMSEC), and classified maps]. Integrated materiel management involves computing requirements, establishing stockage levels, directing and distributing procurement, disposal, and developing guidance for maintenance priorities. The CMMC also performs maintenance management for all assigned or attached maintenance activities.

(2) *Split-based operations*. The CMMC must be able to displace in increments to provide onsite materiel management support of a force-projection response to a crisis, from the force's initial entry into theater through the culmination of operations. The remaining part of the CMMC operates from a secure sanctuary installation location. The home-based main CMMC is augmented with table of distribution and allowances (TDA)-authorized civilians. The CMMC element in the sanctuary area processes the requirements for units in the sanctuary area and for those activities the forward CMMC elements support. Assured communication between the forward and sanctuary-based CMMC elements is required. A military or commercial system may provide the link.

b. The CMCC provides centralized movement control and highway regulation. It uses its subordinate movement control teams (MCTs) and movement regulating teams (MRTs) to commit and allocate corps transportation assets. In response to unusual transportation support requirements, the CMCC controls transportation assets in truck companies attached to TMT battalions or CSBs. The CMCC is discussed in detail in chapter 4.

CHAPTER 4

MOVING THE FORCE

4-1. INTRODUCTION

As the Armed Forces' principal land warfare component, the Army and the role that Army transportation provides is critical to the success of ground military operations. Once Army forces are introduced into an operation, the logistics distribution function significantly increases in importance. At the operational level of war, the senior tactical commander is responsible for distribution system development and, ultimately, for all transportation operations. This is normally the Army service component commander (ASCC). At the tactical level of war, all transportation assets are designed to provide movement support for personnel and materiel from the operational terminals [seaports of debarkation (SPODs) and aerial ports of debarkation (APODs)] to the user level. These transportation operations are normally in DS of committed forces and are characterized by the habitual support relationship that develops between the theater's logistics sources and the deployed force. The distribution system integrates the remaining tactical logistics functions of manning, fixing, fueling, arming, and sustaining.

Generally within a theater of operation, the corps HQ is the smallest organization with all of its transportation elements organic to its force structure. If a smaller force is deployed, many transportation functions can meld within the senior Army HQ through ad hoc measures. Regardless of the force structure, all transportation functions must be conducted within the theater to ensure the distribution system's effectiveness. As a minimum, the distribution system must provide for terminal operations, movement control, and mode operations.

a. **Terminal operations** consist of loading and unloading, marshalling, manifesting, and documenting cargo and personnel as they move through the distribution system. A terminal is required when the mode of transportation is changed, say at a seaport or an airport, or at an intermediate point within the transportation system. A transportation system's effectiveness depends on the efficiency of the terminal facilities that support it. There are two types of terminal operations: terminal service operations and terminal transfer operations.

(1) Terminal service operations support water terminals at established ports, unimproved ports, or logistics-over-the-shore operations (LOTS) sites. Transportation terminal service units load, unload, and transship cargo to support the port operations. They also sort cargo by destination and prepare all required documentation to account for cargo moving through the terminal.

(2) Terminal transfer operations include transshipping cargo at air, rail, and truck terminals. This includes unloading, segregating, temporarily holding, documenting, and loading cargo whenever a change in mode occurs.

b. **Movement control** is the most critical element of the Army's transportation system. Effective movement control is the linchpin that integrates the theater's logistics systems, sustainment operations, and unit movements. On the one hand it must satisfy the tactical commander's guidance; on the other it must support its customers' demands. Think of it as the coordination link between customers, their requirements, and all available transportation assets. Movement control involves staff planning and movement regulation.

(1) Staff planning includes the estimate process and any coordination required to ensure the transportation system efficiently moves personnel and materiel to the right place, at the right time, by the

most economical means. This aspect of movement control is simply planning and apportioning all available transportation resources based on the commander's priorities and guidance, not the customer's. The corps movement control center (CMCC) and its movement control teams (MCTs) are the primary tactical-level movement control coordinators. The division transportation officer (DTO) develops the division movement control program.

(2) Movement regulation involves actually executing the movement plan and is a process of daily allocating, deconflicting, and monitoring all moving transportation assets. It provides order and points of contact, and enforces movement priorities. It establishes the highways to be used, their ability to sustain traffic, and the control measures for their use. Highway regulation establishes the rules of the road (see figure 4-1).

c. **Mode operations** simply refer to the type of transportation equipment used to physically move personnel, equipment, or cargo. The basic modes of transportation are air (both rotary and fixed-wing modes), rail, road, and water transport. While corps operations may include aviation, rail, and truck operations and their terminals, division operations normally only involve truck and limited air movements.

4-2. BRIGADE TRANSPORTATION OPERATIONS

The brigade HQ has no separate transportation staff element and technically no transportation assets. Due to having no transportation assets in the FSB, supply point distribution is the normal method of logistic operations within the brigade. Most combat arms battalions' support platoons include a supply and transport (S&T) section that has the only trucks and drivers in the brigade who support transportation requirements. This section's mission is to support the battalion's LOGPAC operations, and they are normally not available for additional missions. Other sections and units within the brigade do have organic vehicles they can use to support emergency and ad hoc transportation missions. Normally the unit's operations NCO or 1SG directly controls these ad hoc missions. Generally, the brigade depends on the DISCOM to provide transportation support other than normal LOGPAC and sustainment operations.

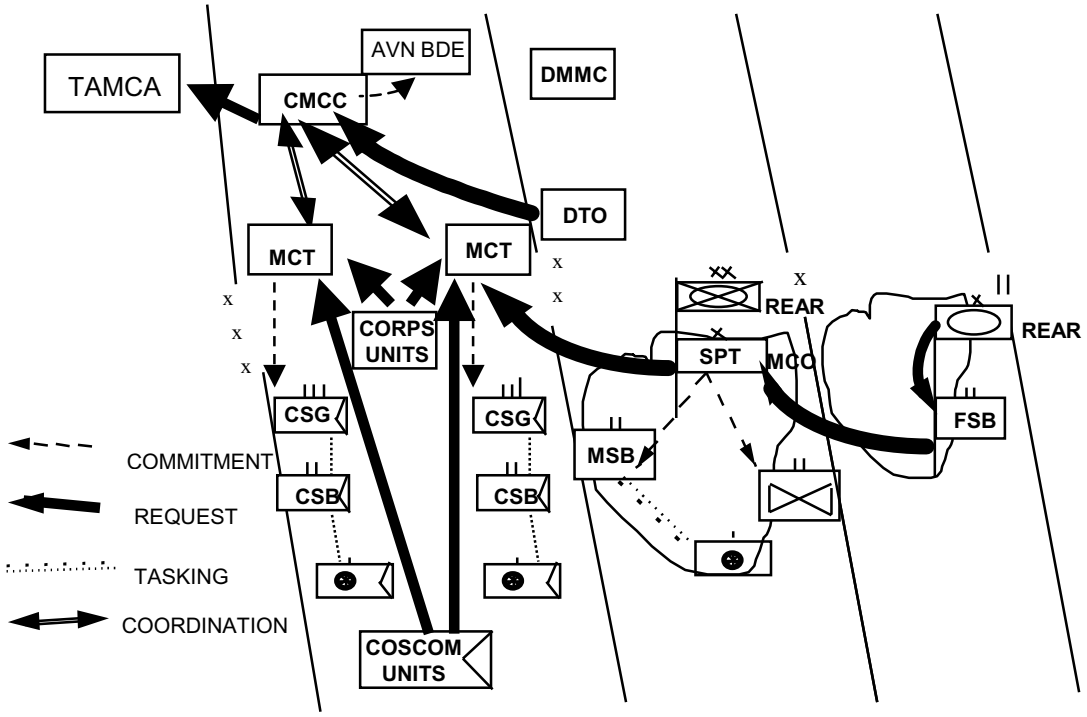


Figure 4-1. Transportation requests.

a. Movements control. The brigade S4 is responsible for validating transportation requirements, including coordinating times and locations with battalion TF S4s, consolidating all requests, and submitting them to the forward support battalion (FSB) support operations officer (SPO). The brigade S4 ultimately controls all movement within the brigade rear area.

b. Mode and terminal operations. The FSB operates the brigade support area (BSA) that is similar to a terminal operation. The FSB's subordinate companies operate the supply points within the BSA, and brigade combat units use their support platoon vehicles to pick up the requested supplies from these fixed locations and distribute them directly to the units. The FSB does not have any additional transportation assets other than its own organic vehicles to support any other method of distribution within the brigade.

4-3. DIVISION TRANSPORTATION OPERATIONS

Divisions have only limited motor transport capabilities and rely heavily on corps assets to deliver most supplies and equipment. The corps uses the throughput distribution concept to deliver supplies directly from corps supply points to the division aviation support battalion (DASB), main support battalion (MSB), and forward support battalions (FSB).

a. Movements control.

(1) The division transportation officer (DTO) is a special staff officer who coordinates and plans the division's transportation system based on the division commander's priorities. The DTO is the division's transportation staff element who communicates requirements and movement plans to the corps. Within the division, the DTO gives the DISCOM movements control officer (MCO) broad policy guidance and basic plans and policies. He also provides staff supervision and assistance in transportation matters concerning all modes of transport. The DTO coordinates with the G3 and the division aviation officer to allocate division air assets and submits requests for all nondivisional air support and nonroutine motor transport requirements to the CMCC.

(2) The DISCOM MCO centrally controls all internal division transportation missions. His primary job is movement regulation. The MCO is the link between the division transportation mode operators and the division transportation users. He allocates assets by tasking the transportation motor transport (TMT) company and any rotary-wing air assets dedicated to support the logistics mission. All division users forward their transportation requirements through their S4 to the FSB that then coordinates it with the MCO. The division's transportation capabilities are then balanced against requirements and division-level priorities. When routine requirements exceed available division motor transport capabilities, the MCO requests additional transport support through the DTO and the division's designated MCT.

b. Terminal operations. The support battalions primarily use supply point distribution to support the division except for classes III, IV, and IX. Each of the support battalions operates like a terminal for the corps transportation system. Most transportation missions originate and terminate at a terminal.

c. Mode operations. The division's organic transportation assets are in the MSB TMT company. Its primary mission is to provide truck transportation support to the division. A normal TMT company includes a HET platoon (24 HETs), a medium platoon (33 tractor-trailers), and a light platoon (36 5-ton cargo trucks). The division's 34 petroleum, oils, and lubricants (POL) tankers are in the MSB supply company and are generally not available for any other missions. The TMT company is usually located in the division support area (DSA) close to the MSB HQ and near the main supply route (MSR). The TMT company—

- Provides truck transportation to move supplies from the DSA to the BSA.

- Transports division reserve supplies for which the MSB is responsible.
- Furnishes vehicles to assist division elements with requirements for supplemental transportation.

4-4. CORPS TRANSPORTATION OPERATIONS

The corps is the smallest Army HQ that has all of the organic transportation units assigned to provide the basic transportation functions of movement control, terminal operations, and mode operations without augmentation. One of the corps support command's (COSCOM's) primary missions is to provide for the corps' integrated distribution system that predominately relies on ground lines of communications (LOCs) in the form of MSRs with only limited airlift. The COSCOM relies on the CMCC and the transportation group to accomplish these distribution missions. Within the corps, the primary types of movement are unit movements and sustainment convoys. The CMCC provides for centralized movements control, while the transportation group provides for mode and terminal operations.

a. Movements control.

(1) The CMCC implements the corps movement program. It allocates corps transportation assets according to the priorities established in the movement program. In developing the movement program, it considers three requirements—the known movement requirements by class and type of supply necessary to sustain corps units, unit movements based on the concept of the operation, and nonprogrammed transportation requests it receives from units. The CMCC constantly consolidates, prioritizes, and tabulates the requirements by class of supply, tonnage, and movement program line number. It then allocates the available transportation capabilities against the validated requirements and notifies the mode operators. DTOs and MCTs positioned throughout the corps area send requests for priority nonprogrammed movement requirements to the CMCC. It verifies the requirements with the origin MCT. If necessary, the CMCC recommends adjustments to the corps movement program. Normally, the COSCOM commander or the deputy corps commander must approve changes to the movement program.

(2) The CMCC also coordinates highway use for all movements originating in, terminating in, or transiting the corps area. The CMCC will coordinate circulation and security missions with the MP brigade. The MP brigade ensures that authorized traffic moves smoothly, quickly, and with little interference along the MSR. It routes traffic to meet changes in the situation, enforces MSR regulations, and reconnoiters MSRs. It coordinates movements coming into and leaving the corps with the theater transportation agencies and division DTOs by positioning its organic movement control teams (MCTs) and movement regulating teams (MRTs) throughout the corps AO.

(3) MCTs process requests for programmed or nonprogrammed movement and convoy clearance requests from its customers to the CMCC's highway traffic section. The section matches all requests against the program and, if approved, notifies the origin MCT of the movement credit and number. The MCTs then forward the convoy clearance to the requesting unit. The MCTs also investigate frustrated cargo due to missing or improper documents, provide customers with ITV, and maintain container inventories. As required, they will designate temporary storage sites for cargo requiring breakbulk (B/B).

(4) MRTs with MP assistance ensure that authorized traffic on corps-designated MSRs flows efficiently. MRTs operate at locations such as critical highway points, aerial ports of debarkation (APODs), seaports of debarkation (SPODs), trailer transfer points (TTPs), terminal transfer locations, first destination reporting points, and railheads. They report to the CMCC/MCT on vehicle and convoy movement along designated routes. They also report disruptions in traffic flow due to vehicle breakdown, road conditions, or enemy action. Their express purpose is to divert cargo, troubleshoot movement problems, and act as the commander's eyes and ears. As necessary, they adjust movement schedules and change truck or convoy routing. They then notify convoys of changes in routing and rate of march.

MRTs also provide convoy commanders with the latest intelligence on route conditions, possible threat action, and air or artillery support availability.

b. Mode and terminal operations. The COSCOM transportation group provides the manpower and equipment that operate the distribution system. The actual organization depends on forecasted workload and available units in the force structure. A transportation group HQ is required when three or more transportation battalions are included in the force structure. Each transportation battalion will have a variety of truck companies, cargo transfer companies, and TTP detachments. Transportation units provide DS and GS to corps nondivision units and reinforcing support to assigned divisions. The types of transportation companies follow:

(1) Light-medium truck companies move general cargo in support of the corps. They primarily operate to support the COSCOM's internal needs in the corps rear.

(2) Medium truck companies are allocated to CSBs or transportation battalions. They haul containerized and B/B ammunition and general cargo within the corps rear area and to supply points located in the DSA/BSA.

(3) CSBs or transportation battalions have palletized loading system (PLS) truck companies. Their primary mission is to haul ammunition within the corps rear area and to supply points located in the BSAs. They can also transport other containerized and general cargo.

(4) Heavy-equipment transport (HET) truck companies, usually located in the corps rear, move heavy or outsized cargo and vehicles such as tanks, howitzers, and personnel carriers. HETs support operational and tactical mobility. HETs move heavy armored forces from a port of debarkation (POD) to an initial AA in the corps rear area. HETs also move heavy armored forces with slice elements from corps or division areas as far forward as METT-TC factors will permit. Using HETs to move armored forces reduces fuel requirements. It also reduces the maintenance workload due to fewer system breakdowns en route. HETs also support evacuation and weapon system replacement operations (WSRO). Weapon systems are functional, and crews are rested and prepared to fight. When HETs perform a battlefield evacuation role, they move as far forward as the most forward collection point the maintenance company in the brigade area operates. Due to the low density of these assets, the HET company is not normally placed in a DS role.

(5) Cargo transfer companies transship cargo at air, rail, motor, and inland barge terminals. This includes unloading, segregating, temporarily holding, documenting, and loading cargo whenever a change in mode occurs. Terminal service and railway operating capabilities may be assigned to the COSCOM as required when a corps is operating independently. The corps or TA will provide required terminal operations within a division's AO.

(6) TTP teams (TOE 55540LE00) are attached to the transportation battalion. They receive, segregate, assemble, and dispatch loaded or empty semitrailers for onward movement IAW CMCC-directed priorities. They also provide emergency refueling and minor repairs for arriving vehicles.

4-5. AIRLIFT RESUPPLY SUPPORT

Airlift resupply is predominately an Air Force mission that incorporates two delivery methods—air-land or airdrop. The Army normally provides the airdrop equipment and prepares the loads for all airdrop missions. The Air Force prefers the air-land delivery method because it does not require special airdrop equipment or rigging. The request procedures for both airdrop and air-land resupply are the same.

The Air Force can significantly enhance the Army's transportation capability within a theater of operations. At each level of command, staff elements control and manage transportation assets and monitor

Air Force airlift requirements. The corps transportation officer, under the corps G4's staff supervision, performs these critical transportation staff functions and integrates airlift requirements into the overall corps transportation requirements. The preplanned airlift requests are consolidated and forwarded through designated channels to the next command echelon for subsequent validation or to the transportation unit for execution. The G4 staff transportation section at corps and divisions (DTO) validates all preplanned airlift requests while the G3 staff validates immediate airlift requests.

Tactical operations and special missions use preplanned airlift support when sufficient time is available to schedule necessary assets. Immediate requests result from unanticipated, urgent, or priority requirements. These requirements may be met by providing aircraft on a quick-reaction basis at designated locations, by diverting or canceling preplanned missions, or by generating a standing sortie. Therefore, an emergency airlift mission may use a preplanned airlift sortie; however, it would normally be filled by an immediate mission using the highest priority the theater commander establishes. Ground force requirements for airlift normally originate as requests for transportation or resupply support. The S3/G3 develops the requirements for airlift and coordinates its use when requesting airlift for tactical air movements. The S4/G4 processes the actual request for air transport to support the air movement through logistic channels.

4-6. TRANSPORTATION PLANNING PROCESS

The transportation planning process must be followed regardless of the type of transportation planning being done. First, determine what must be moved. Second, determine what transportation resources are available. Third, balance requirements against resources. Fourth, determine shortfalls and critical points and apply priorities. Fifth, and most important, coordinate the plan with all affected units. The transportation planner must determine what the units need and then develop a transportation network to satisfy those needs.

a. Determining requirements.

(1) Each requirement to move troops or supplies generates at least one requirement for transportation. Initial transportation requirements can be expressed in terms of tonnage (or numbers of personnel) and distance. In the later stages of planning, the tonnage become classes of supply or even distinct items.

(2) The transportation planner provides adequate transportation support for the operation. He estimates total requirements based on the supplies required to support the forces and distances involved. This estimate serves as a point of departure. It functions as a general checks on whether the requirements the users submitted are realistic.

(3) Some requirements may be within the capability of transport organic to the requesting unit. The planner must determine the extent of such capabilities and urge their use.

(4) Special requirements will be generated when the corps includes an airborne or air assault division. These divisions have limited organic transport capabilities. Therefore, when committed to sustained ground combat operations, they will require significant, dedicated corps transportation.

b. Determining resources. Resources are determined by assessing transportation resources and considering—

(1) What types of transportation units are available?

(2) Characteristics and capabilities of each mode of transport.

(3) Capabilities of available civilian transport based on a facility survey, equipment inspection, and agreements negotiated with civilian transportation operators.

(4) Capabilities of HN transport, both civil and military, based on a facility survey, equipment inspection, and agreements negotiated with the host nation.

c. Balancing requirements and resources. Balancing requirements and resources is a process that determines if the transportation capability is adequate to meet the requirements. It also establishes the workload for each segment of the transportation service. This is the most time-consuming portion of the planning process.

(1) Providing complete transportation support requires considering factors other than the necessary operating units. The planner provides for adequate C^2 by organizing units according to their missions, proposed locations, and area of coverage. He coordinates with other service planners to make certain their plans include the necessary capability to support the transportation units. He recommends the locations of supply, maintenance, and personnel replacement detachments and ammunition units according to their transportation requirements.

(2) A composite statement of total transportation requirements speeds up the planning process. Each planner selects the format he finds most usable. One may use a chart listing all requirements showing origin, destination, required delivery date, weight, quantity, and class of supply for each shipment.

(3) The process of establishing workloads for each transport mode varies according to the operation's phase. Usually, the plan for the initial phase should provide sufficient motor transport for all cargo and personnel movements. Though some priority items will move by air, this quantity will normally be only a small percentage of the total supplies.

(4) Workloads are computed individually for each transport mode according to the characteristics and capabilities of the operating units of that mode. The final plan, however, must combine the units and operations of all modes into a single, integrated transportation system.

(5) During actual operation, the theater commander allocates a portion of the available airlift to TA for its requirements. For planning purposes, however, air movement capacity is an assumption based on coordination with Army aviation and Air Force planners. This assumed capacity seldom exceeds the requirement for moving priority cargo. If there is excess, planners should use it for nonprogrammed priority movements. Army transport aircraft capacity seldom exceeds the amount required for DS of combat operations. Therefore, there should be no plans for routine air movements of other than priority cargo.

(6) Rarely will a transportation plan extensively use inland waterways. In only a few areas of the world are there extensive inland waterway systems compatible with transportation requirements. Inland waterway systems are relatively vulnerable to enemy action and sabotage and are difficult to restore to usefulness.

(7) The planner must be certain to include all types of workloads. They may include successive, direct, and retrograde cargo shipping; documenting rehandling; rewarehousing requirements; augmenting units' transportation; assisting with the medical evacuation plan; and allied and civilian organization support requirements.

d. Determining critical points, shortfalls, and priorities. Determining critical points along the proposed transportation system is done early in the planning process to identify points such as supply facilities, aerial and water ports, terminal transfer locations, and other points that may create bottlenecks. Accompanying this critical point determination is analyzing which alternative plans would alleviate possible bottlenecks. This builds flexibility into the system. Determining capability results in an assessment of

the number of transportation units and their equipment available to support common-user movement requirements. Included in this assessment is the total number of HN transportation assets allocated, the number of third-country and US-contracted assets and reception materials handling, and in-transit storage capabilities. Balancing requirements against this assessment requires movement planning according to command priorities and the transportation priority or the shipment when capabilities fall short of meeting requirements. The remaining shortfall will be adjusted, and these adjustments will be coordinated with the shipper, receiver, materiel manager, and logistic staffs.

e. Coordinating among planners. Complete coordination among all planners is mandatory to ensure integrated support. Original guidance is seldom valid throughout the planning period. Therefore, constant coordination with the other staff planners on changes to the mission, commander's concepts, assumptions, intelligence, policies, priorities, allocations, locations of facilities, and other elements necessary to keep planning current is an absolute necessity.

4-7. TRANSPORTATION AUTOMATION SYSTEMS

a. The Army's only sanctioned transportation automation system is the Transportation Coordinators'Automated Information for Movement System II (TC-AIMS II). TC-AIMS II combines individual service terminology and operating procedures into one standard multifaceted transportation system. It will be linked to automatic identification technology (AIT) devices at many of the critical transportation nodes in the deployment and sustainment infrastructure. It standardizes reporting events as they occur for in-transit visibility (ITV) and the information needs of the Global Transportation Network and service-unique total asset visibility (TAV) database systems.

b. TC-AIMS II workstations will be located at specified levels down to battalion and separate company. Army units will use TC-AIMS II and standard C^2 systems as integrated information tools for planning, managing, and executing deployments.

c. Commanders and staffs will use the system for all deployment-related information. TC-AIMS II furnishes unit movement officers and transportation organizations at all levels with standardized policies, procedures, and formats to produce and execute a variety of required tasks. These tasks include—

(1) *Unit movement support.* The unit move module of TC-AIMS II will have four basic functional areas. It will be used to store unit personnel and equipment information, maintain deployment information, plan deployments, and schedule deployments. It will manipulate/update information for convoys, rail, and air load planning and personnel manifesting. Other transportation systems will also share unit movement information. Units will update their unit equipment list and deployment equipment list and electronically send the updates through the chain of command to the Installation Transportation Office.

(2) *Battalion S3/S4*. TC-AIMS II will support unit deployments, movements to exercise sites, and the functions of convoy planning and transportation requirements estimating. The battalion operations, plans and training staff/logistics staff (S3/S4) will prepare a deployment schedule of events/flow table to manage movements.

(3) *Deployment manager.* TC-AIMS II provides deployment managers with a system that supports their information needs to successfully deploy a combat-ready force on time.

(4) *Motor transport operator.* The system will support day-to-day fleet management missions. Integrated with the Movement Tracking System (MTS) and AIT equipment, TC-AIMS II will be the information tool to effectively manage the tactical-wheeled fleet.

(5) *Movement control team (MCT).* TC-AIMS II, integrated with MTS and AIT equipment, will allow MCTs to manage dozens or hundreds of movements each day/shift and meet the customers' transportation needs in a deployed theater.

(6) *Movement control headquarters.* TC-AIMS II will provide the information to conduct transportation planning, manage transportation assets, and synchronize transportation operations within the theater.

(7) *Cargo transfer operator.* The system will be the primary mission support tool when integrated with MTS and AIT equipment. It will allow the cargo documentation elements to expedite the transshipment operations for both unit equipment and sustainment cargo within a theater of operations.

4-8. TRANSPORTATION TERM DEFINITIONS

The following terms are useful in understanding transportation operations:

a. Backhaul. Shipping materiel to or through an area from which the materiel has previously been shipped. Employing empty transportation assets returning from a mission to move materiel from a forward location to a location in the division or corps rear area. The CMCC tasks this type of distribution, and it requires the same coordination as normal transportation support.

b. CMCC. A functional control center at corps level (assigned to a COSCOM). It provides centralized movement control and highway regulation for moving personnel and materiel into, within, or out of the corps area and ensures efficient use of available transportation capability. It plans, programs, coordinates, manages, and analyzes transportation and movement requirements and implements corps priorities.

c. Diversion. Rerouting cargo or passengers to a new transshipment point or destination or on a different mode of transportation before arriving at the ultimate destination.

d. Highway regulating point. Point on the highway where the MRT records and reports arriving and departing highway movements and regulates those elements by issuing instructions for continuing the march, detours, diversions, schedules, etc.

e. Highway regulation. Planning, routing, scheduling, and deconflicting highway use to facilitate movement control. It provides order, prevents congestion, and enforces movement priorities.

f. Highway traffic control. Enforcing the rules of the road, traffic regulations, traffic circulation plan, and road discipline, including spot direction. This is a provost marshal and MP function.

g. Line-haul. In highway transportation, a type of haul involving long trips over the road in which the portion of driving time is high in relation to the time consumed in loading and unloading. Line-hauls normally involve one trip or a portion of a trip per operating shift allowing for two round-trips per day.

h. Local haul. In highway transportation, a type of haul characterized by short driving time in relation to the loading and unloading time. These hauls normally involve four or more round-trips per day.

i. Local haul versus line-haul. In highway transportation, these terms refer to the expected number of complete trips a transportation asset can complete over 24 hours. A local haul describes a route over which a vehicle can make four or more complete trips in 24 hours. A line-haul describes a route over which less than four complete trips can be completed. For planning and estimating purposes, a local haul will allow four complete truck trips, while a line-haul allows two complete trips. Be aware that these terms are time oriented rather than distance oriented. A case in point: a 60-mile route through New York City would take much longer to travel than would a 60-mile route in central Kansas. Road congestion,

choke points, and control measures such as red lights are a few of the factors that can account for the differences in time to complete travel over the same distances in different locations.

j. MCT. Assigned to the CMCC, theater transportation battalions (movement control), or TAMCA to decentralize execution of movement responsibilities on an area basis or at key transportation nodes. MCTs' various sizes and capabilities provide flexibility in assignments based on anticipated workload.

k. Mode operations. A collective term used to indicate operations of one or more transport modes (highway, rail, water, and air).

l. Movement capability. The total capability of the shipping and receiving agencies and the transport services to effect transportation between two or more points or areas over a stated period of time.

m. Movement control. Planning, routing, scheduling, and controlling personnel and supply movements over LOCs; also an organization responsible for these functions.

n. Movements program. A command directive the transportation movement element prepares and issues in the commander's name giving plans for future movements. It is based on the commander's overall plan and coordinated with all interested agencies. The movements program allocates the available transport mode capability to satisfy the movements requirements according to the commander's priorities. These priorities provide an orderly basis for resolving competition among the various users of the available transport. The movements program normally contains information on origins, destinations, weight and cube of cargo, type and number of personnel to be moved, the movement priority, and the transportation organization assigned the movement responsibility.

o. Terminal. Those military and commercial facilities used to load, unload, and transit handling cargo or personnel by various modes of transportation.

p. Terminal operations. Command and control of Army operations at water terminals (established ports, beaches, and inland waterways), air terminals (Air Force and Army), and in-transit areas.

q. Throughput. Shipping supplies or moving personnel from points of origin as far forward as possible, bypassing intermediate supply or personnel activities.

r. Traffic circulation planning. This plan graphically portrays the road network and how it will be used and maintained. The plan normally includes restrictive route features; route designations; direction of movement; and locations of boundaries, units, highway regulating points, traffic control points, and major supply or shipping activities.

s. Traffic routing. Traffic is routed over designated routes to balance the vehicle and route characteristics (road surfaces, curves, and bridge capacities) and to reduce traffic congestion or conflicts.

t. Traffic scheduling. Traffic scheduling is coordinating times for movement along specified routes to satisfy command movement priorities; minimize delays, conflicts, and congestion; and promote security and passive defense.

u. Transshipment. Transferring personnel or materiel from one conveyance to another using the same or different means.

CHAPTER 5

ARMING THE FORCE

5-1. INTRODUCTION

Today's weapon systems are increasingly lethal and effective, enabling our forces to defeat and destroy the enemy. A responsive and continuous ammunition supply is integral to this lethality. The arming support structure's mission is to ensure munitions are in the warfighter's hands in the right quantities and proper types at the decisive time and place. Arming support is focused to support the "big six" combat users—artillery, infantry, armor, air defense artillery (ADA), combat engineers, and combat aviation. Within the corps, arming support is accomplished using the maneuver-oriented ammunition distribution system—palletized loading system (MOADS/PLS).

Ammunition planning must be flexible enough to support all types and combinations of forces in our force-projection environment. Ammunition support units must be highly mobile, multifunctional organizations capable of projecting munitions support anywhere in the world. When fighting as part of joint and combined forces, US Army ammunition units must also be prepared to support other services and possibly coalition forces.

This chapter focuses primarily on conventional ammunition support but also includes an overview of explosive ordnance disposal (EOD) operations within a corps. The information in this chapter is derived from FMs 9-6 (dated 20 Mar 98), 9-15 (8 May 96), 9-38, 54-30, and 63-3. Since the primary focus of this chapter is corps and division ammunition operations, information about the TA and CONUS is minimal. Most of the information is based on support to a heavy division. If this chapter conflicts with doctrinal sources, the doctrinal sources will take precedence.

Paragraph 5-8 includes several examples of how to apply ammunition units' lift capability. Remember these are examples that are intended only to illustrate how lift may be used. Do not take them as the only possible solutions.

5-2. AMMUNITION SUPPORT

a. General. Providing the required quantity and type of ammunition to the combat user at the time and place it is needed requires a responsive and flexible ammunition supply system. MOADS/PLS provides flexibility through rapidly moving ammunition, fewer ammunition transfers, and using mission-configured loads (MCLs). MOADS/PLS requires fewer soldiers, less equipment, and allows for in-transit visibility (ITV) of munitions stocks. The objective of MOADS/PLS is to deliver 100 percent of the big six users' ammunition requirements through supporting ATPs. In addition to these combat users, other units may receive ammunition support on an area basis from the ammunition supply activity (ASA) [e.g., ammunition supply point (ASP) or corps storage area (CSA)] or ATP closest to the unit. Other units operating in the division rear area receive ammunition support on an area basis from either a DS ammunition company ATP or ASP unless the division directs otherwise. The ASP can support units directly and directly ship selected items to the ATPs. GS companies that operate CSAs in the corps rear provide GS ammunition support.

b. Ammunition basic loads (ABLs). ABLs originate with a tactical force's planned deployment. An ABL is that quantity of ammunition either allocated to or issued to a unit [depending on the major Army command's (MACOM's) policy] to sustain its operations in combat until it can be resupplied.

Basic load requirements are based on unit weapon density and mission requirements and are designed to meet a unit's anticipated initial combat needs. Units must be able to transport ABLs in one lift on organic weapon systems, equipment, and unit personnel. An ABL is normally expressed in rounds per weapon but may be expressed IAW MACOM policy as a number of required combat loads (example: battalion loads for artillery systems). The following factors influence the ABL's composition:

- Nature of the enemy threat.
- Type of mission.
- Intensity of engagement.
- Resupply transport availability.
- Ammunition availability.
- Number and types of weapons in unit.

The criticality and high cost of special purpose ammunition such as the Army Tactical Missile System (ATACMS) requires extraordinary asset management, dispersion, and distribution to ensure proper availability. The limited availability of these types of ammunition may preclude their inclusion in individual ABLs. Rather than being allocated per weapon, these types of ammunition may be held back under corps, theater army (TA), or joint forces land component command control to attack selected, high-priority targets as they appear.

c. Lift capability. Ammunition units' capabilities are measured in lift. A lift uses materials handling equipment (MHE) to pick up ammunition and set it down, with each pickup and set down constituting one lift. A lift is measured in short tons (STON) (2,000 pounds). Ammunition units' expressed lift capabilities are limited by personnel and MHE availability. There are several categories of activities that constitute lift requirements—receipts, issues, rewarehousing/configuring, and transloads. At an ATP, the only lift required is transload. At all other ASAs, there will be a combination of all types of lift. The ammunition manager's goal is to effectively manage ammunition unit lift capabilities to adequately support ongoing operations.

5-3. CONTROL PROCEDURES

a. Ammunition supply rates. The procedures used to control ammunition consumption are the required supply rate (RSR) and controlled supply rate (CSR). The Standard Army Ammunition System—Modernization (SAAS-MOD) is the management information system used to support these control procedures.

(1) The RSR is the amount of ammunition a maneuver commander needs to sustain tactical operations, without restrictions, over a specified time period or for a specific mission. The RSR is expressed as rounds per weapon per day or, for selected items such as mines or demolition materials, as a bulk allotment per day or per mission. As the threat or mission changes, RSRs should change to reflect revised ammunition expenditure estimates. Maneuver commanders develop RSRs and submit them to the next higher HQ through operations channels. Each HQ reviews, adjusts, and consolidates RSRs and forwards them through operations channels. At the HQ that has ammunition management responsibilities, normally at TA/Army service component commander (ASCC) level, the total ammunition requirements are compared against total ammunition resupply capabilities for that period. If there is a shortfall in capability, a CSR will be established.

(2) The CSR is that amount of ammunition that can be allocated based on the availability of ammunition types or quantities, class V storage facilities, and transportation assets over a specific time period. The CSR is expressed in the same terms as the RSR. Commanders should use CSRs to allocate or prioritize the ammunition flow to units engaged in combat and to units held in reserve. They could also

withhold some ammunition, especially high-lethality, low-density ammunition, to meet unforeseen requirements.

The commander with ammunition management responsibilities will announce the CSR for each item of ammunition to subordinate commanders through an OPORD, a fragmentary order (FRAGO), a service support annex, or a fire support annex. The CSR may change daily and vary from corps to corps, depending on priorities, the projected threat, and ammunition availability. Each maneuver commander announces a CSR to the next subordinate maneuver commander. Commanders making CSR allocations to subordinate units should not allocate 100 percent of the CSR they received from the higher HQ. They should retain a portion to meet unforeseen contingencies. Suballocation is the process commanders use to allocate CSRs to subordinate commanders.

The next higher commander may give permission for a unit to exceed its CSR. The commander granting permission for a unit to exceed its CSR must release contingency stocks, withhold or reduce issues to other units, or request an increase in his own CSR from the next higher commander before permitting a unit to exceed its CSR.

b. The division ammunition officer (DAO). The DAO is responsible for ammunition resupply for all units operating in the division AO and represents the DISCOM commander and DMMC on all ammunition-related matters. The DAO has the following five broad missions:

- Consolidating division ammunition requirements.
- Preparing plans and procedures for ammunition operations.
- Maintaining ammunition stock records and reports using the Standard Army Ammunition System—Modernization [SAAS-MOD].
- Planning, coordinating, and conducting division ammunition operations.
- Validating ammunition requests.

The DAO operates from the DMMC where he can oversee the division's class V support missions. The DAO maintains constant communication with the customers, MSC staffs, CMMC, and COSCOM; ASAs supporting the division; and ATPs while coordinating ATP operations/class V resupply for corps and division units. This communications capability and knowledge of planned and current operations enables the DAO to anticipate supported units' ammunition consumption and then coordinate issues or resupply.

The MSC S4 consolidates requests for ammunition and forwards them to the DAO. Depending on SOP, the maneuver brigade S4 may route the request through the supporting FSB to the DAO. The division G3 informs the DAO of planned operations, unit priorities, and unit RSRs. The DAO then coordinates with the CMMC for the required or allocated ammunition to be shipped to the designated ATP for the using unit to pick up. The DAO notifies the ATP representative and MSC S4s of inbound ammunition shipments. The MSC S4s must notify subordinate units when and where to pick up ammunition. Based on the division commander's concept of the operation, the DAO specifies which units (division, corps, or other) each ATP supports. The DAO also recommends locations for the ATPs to the organizations responsible for their positioning.

In some situations, the DAO may designate an ASP rather than an ATP to provide more responsive ammunition resupply to units operating in the division rear. Upon receiving the issue, the users may configure the ammunition into appropriate LOGPACs for movement forward to combat units. During defensive operations, the DAO will coordinate for the delivery of munitions barrier material (mines and demolition materials) directly to an engineer supply point (ESP) near the emplacement site.

c. The corps materiel management center (CMMC). The CMMC's missile and munitions division interfaces with the DAOs and MSC G4/S4s to coordinate ammunition support within the corps. The CMMC performs the following ammunition support functions:

- Approves stockage objectives for CSAs/ASPs.
- Reviews RSRs and recommends CSRs to the corps staff.
- Processes unit requisitions.
- Directs ammunition distribution in the corps based on stockage levels and unit requisitions.
- Coordinates with the corps movement control center (CMCC) to integrate daily ammunition distribution requirements into corps transportation missions.
- Coordinates with the theater army MMC (TAMMC) and/or national inventory control point (NICP) to fill ammunition requirements.
- Operates the SAAS-MOD to oversee ammunition assets on hand and in transit, and determines authorized levels for corps CSAs and ASPs.

5-4. MISSION-CONFIGURED LOADS

Mission-configured loads (MCLs) are ammunition configured into complete round mixes/weapon system mixes to meet a specific theater of operations requirement. MCLs simplify planning and coordination for ammunition resupply by specifying a predetermined mix of ammunition designed to fit on a specific vehicle [PLS flatrack or stake and platform (S&P) trailer] and transported as a single load. Units request resupply by type and quantity of MCLs versus individual Department of Defense identification code (DODIC) requests. MCL use simplifies the requesting process and ensures all items necessary for a complete round (i.e., artillery projectile, primer, fuze, and propellant) or weapon system mix (i.e., 120mm HEAT, 120mm APFSDS-T, .50-cal, 7.62mm, and smoke grenades for the M1 tank) arrive at the unit at the same time. MOADS/PLS maximizes MCL use. Using MCLs does not preclude units from requesting resupplies of single DODICs.

MCL planning is done in peacetime to enhance wartime resupply coordination between the customers and the DAO and from the DAO to the CMMC. MSC S4s submit proposed MCL configurations to the DAO based on their type of unit, TF, or weapon system. The DAO reviews MCL submissions and submits a consolidated division MCL listing to the corps. The CMMC, in coordination with the corps staff, reviews all MCL requests and establishes a corps set of standard MCLs to support the corps maneuver units. Corps MCLs are then published in the corps SOP or applicable OPORD to standardize MCLs within the corps.

Emerging doctrine in ammunition support is the strategic-configured load (SCL). An SCL consists of ammunition loaded into an International Standards Organization (ISO) container or ISO-compatible flatrack at a CONUS depot or facility in a complete round mix for artillery and a weapon system mix for other systems (tanks, Bradleys, Apaches, etc.). In the event of a contingency operation, the ISO containing the SCL is deployed as is to the theater of operations. Using ISO-compatible flatracks, such as the container roll-in/out platform, will significantly reduce the lift requirements within the theater by allowing SCLs to bypass ASAs and move directly from the APOD/SPOD to customer units equipped with PLS. The SCL will not be widely used until research and development can reduce the inherent risks of storing and transporting incompatible ammunition together.

5-5. AMMUNITION UNITS

a. Supply Company, FSB—operates an ATP in its respective BSA and provides ammunition support to its combat brigade and other units that may be operating in the brigade area.

b. Ordnance Company, Ammunition (DS) (MOADS/PLS)—establishes and operates up to three geographically dispersed ASPs and one ATP in the division rear area. Receives, stores, rewarehouses, configures, and issues conventional ammunition using the PLS. Basis of allocation is one company per division. It is normally attached to a forward CSB in a COSCOM forward CSG.

c. Ordnance Company, Ammunition (MOADS/PLS)(CSA)—establishes and operates a CSA in support of corps operations. Receives, stores, rewarehouses, configures, and issues conventional ammunition using the PLS. The basis of allocation for these companies is one per 7,000 STON of ammunition received, stored, rewarehoused, configured, and issued. It is normally attached to the rear CSG's ordnance battalion, ammunition. If an ordnance battalion is not assigned, this company may be assigned to a CSB or S&S battalion located in the rear CSG. In contingency operations or to shorten the distance between the CSAs and ASPs and ATPs, this company may be attached to a forward CSG's CSB to operate a CSA behind each division.

d. Ordnance Battalion, Conventional Ammunition—is attached to the rear CSG to command and control assigned or attached companies, modular ammunition platoons, or other attached units. Generally, one ammunition battalion is required to support a fully deployed corps. This battalion provides corps-wide GS ammunition support to divisions, separate brigades, ACRs, and DS ammunition companies. It is one of the few functional battalions remaining in the COSCOM.

5-6. MODULAR AMMUNITION UNITS

With the end of the cold war, the Army evolved from a forward-deployed force to a primarily CONUS-based force capable of projecting combat power to any part of the world and to any type of theater. The earlier MOADS and current MOADS/PLS doctrine and force structure were designed to support a forward-deployed force. Conversely, the wide variety of possible missions facing the CONUS-based, force-projection Army requires an ammunition distribution system capable of supporting any contingency. This more flexible distribution system is based on the concept of modular ammunition units. The first modular ammunition units will enter the Army force structure in Fiscal Year (FY) 2000. Modular ammunition units will replace all current (MOADS/PLS) ordnance ammunition companies by FY 2004.

Under the modular concept, only the number of soldiers or amount of equipment needed to support the forces are deployed. This might mean deploying a single medium-lift platoon (MLP) to support a brigade contingency or a company with added platoons attached to support a mature theater. Modular ammunition units' initial deployment to a theater will consist of one or more platoons. Modular heavy-lift platoons (HLPs) can load, move, and unload 20-foot ISO containers arriving at ports or railheads. The MLP has no container-handling capabilities and will support combat units forward.

As the theater matures and more modular ammunition units arrive in theater, a conventional C^2 structure is established, and the modular platoons are formed into company-sized units. The following describes modular ammunition units and their capabilities.

a. Modular ammunition company. A modular ammunition company consists of a company HQ platoon and from two to five HLPs and/or MLPs. The company HQ can command and control multiple geographically separated platoons as METT-TC requires. However, the HQ must be collocated with at least one of these platoons for logistics support. The HQ can consolidate platoons as required to support ammunition missions in the COMMZ, corps rear, and division rear.

b. Modular ammunition platoon, heavy lift (HLP). The HLP can support units on an area basis through receipt, storage, stock management, inventory control, and issue. It can load or offload 20-foot ISO containers from inbound, or outbound transportation assets. It employs PLS vehicles to move stocks, rewarehouse, move configured loads to a holding area, and move organic equipment. Its total lift

capacity is 2,658 STON of ammunition per day. The HLP can operate independently from an ammunition company HQ but needs outside support for sustainment. It is 100-percent mobile less ammunition stocks.

c. Modular ammunition platoon, medium lift (MLP). The MLP can receive, store, stock manage, inventory control, mission configure, and issue to supported units on an area basis. The MLP does not have container-handling equipment but can unstuff a 20-foot ISO container, if necessary, to mission configure breakbulk (B/B) munitions. Its total lift capacity is 1,521 STON of ammunition per day. The MLP can also operate independently from an ammunition company HQ, but it requires outside support for sustainment. It is 100-percent mobile, less ammunition stocks on hand, and has PLS vehicles to rapidly move ammunition within the ASA.

5-7. AMMUNITION FLOW

Under MOADS/PLS doctrine, ammunition support in a theater of operations is based on continuously distributing ammunition forward to the ATPs and ASPs in the division areas. The general ammunition flow under MOADS/PLS is depicted in figure 5-1. CONUS or other supply sources send ammunition by container ship or B/B transport. Selected items may ship from CONUS by air. Once ammunition clears the port area, it is shipped to the theater storage areas (TSAs) or CSAs. Air transport may be employed to move critical items to forward areas.

All ammunition shipments from TA will flow through CSAs. The CSAs ship ammunition to the ASPs and ATPs. At the ASPs, the ammunition is either issued to units located within the ASP's AO or shipped forward to the ATPs. ATPs provide supply point distribution to all customer units.

Ammunition flow using MOADS/PLS is designed to provide up to 3,500 STON of ammunition to a heavy division per day. All unit capabilities are built to meet this projected worst-case scenario.

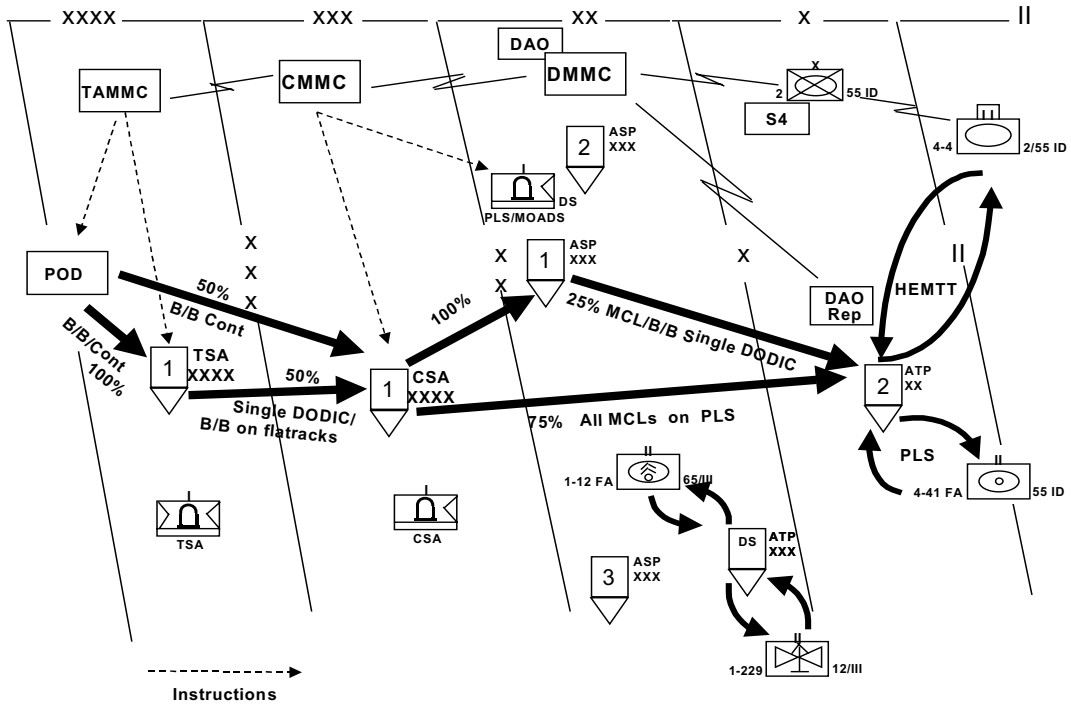


Figure 5-1. Flow of ammunition using MOADS/PLS.

5-8. AMMUNITION SUPPLY SUPPORT ACTIVITIES

a. Ammunition transfer point (ATP). Ammunition support within the division is primarily provided through an ATP. Each maneuver brigade has an FSB that operates an ATP. Each ATP's mission is to provide 100 percent of the ammunition for all infantry, armor, artillery, combat aviation, combat engineer, and air defense units in the brigade's area. This includes divisional and may include nondivisional units (i.e., corps artillery) operating in the brigade area. The ATP relocates (less ammunition stocks) whenever the brigade or division moves using organic transportation assets. ATP terrain layout will be based on METT-TC and mission needs and will not normally exceed 1 square KM. The DAO provides mission guidance to the ATPs through a representative assigned to each ATP. These ATPs may provide ammunition to corps units operating in the brigade area as long as this is coordinated with the DAO. Each ATP in a heavy division can transload 572 STON of ammunition per day. For light forces, this amount is 350 STON of ammunition transloaded per day per ATP.

A corps Ordnance Company, Ammunition (DS) (MOADS/PLS) can employ a DS ATP in the division rear area. While personnel from the corps DS company man this corps ATP, the DAO provides mission guidance. This ATP can provide up to 970 STON of ammunition per day and normally supports corps artillery, corps aviation, corps air defense units, and other nondivisional units operating in the division sector.

Under MOADS/PLS, MCLs will arrive in the ATP secured to PLS flatracks, also called sideless containers (SCs). These flatracks will be offloaded from the corps transportation assets and set on the ground where they will remain until the PLS-equipped user arrives with his vehicle that is designed to pick up the PLS flatrack and transport it to the user area. Under current fielding plans, the only users who will receive PLS will be field artillery (FA) units. All other units must still transload ammunition from flatracks to their particular types of ammunition vehicles. This transload is accomplished using the users' resupply vehicles with onboard MHE, such as the HEMTT, or using the ATP's organic MHE. The ATPs will have a limited number of PLS trucks that can move some of the PLS flatracks around as needed within the ATP area. If the ATP must relocate and has ammunition stocks on hand, other transportation assets are needed to support the move.

Under the MOADS/PLS distribution system, the division and corps ATPs receive 75 percent of their ammunition in MCLs from a CSA. The remaining 25 percent comes from the corps ASPs. When an ATP issues ammunition loaded on PLS flatracks to a using unit, the using unit exchanges empty PLS flatracks for loaded PLS flatracks. After an ATP issues MCL ammunition to using units, the combat users configure the load as required into appropriate LOGPACs.

b. Ammunition supply point (ASP). A corps Ordnance Company, Ammunition (DS) (MOADS/PLS) establishes three geographically dispersed ASPs as well as the DS ATP discussed in paragraph 5-8*a*. Normally, one company will provide ammunition support per division. Once they are in the force structure, three MLPs, as discussed in paragraph 5-6, will operate the ASPs and DS ATP required to support a division. Each ASP will normally maintain 1 to 3 days of supply (DOS) of ammunition to meet surge and emergency requirements for divisional and nondivisional units. ASP stockage levels are based on tactical plans, ammunition availability, and the threat to the resupply operation. The CMMC provides the mission directives and priorities of issues to the ASPs. Under MOADS/PLS, the ASPs receive 100 percent of their ammunition stock from the CSAs as B/B or MCLs using corps transportation assets. The ASPs provide 25 percent of the ammunition required at the ATPs. The ASPs must also provide emergency ammunition supply backup in the event the CSA to ATP LOC is interrupted.

ASPs are positioned to provide maximum support for the tactical mission. The ASP layout is designed to accommodate the mission and terrain assigned and can cover approximately 6 to 8 square KM. The distance between the CSA and the ASP will not normally exceed line-haul transportation distance (144 KM).

Each MOADS/PLS ASP can normally lift 844 STON. Company totals are 2,530 STON (3 x 844) at the ASPs and 970 STON at the ATP. This total lift capability must be applied to ammunition receipts, configuring MCLs, rewarehousing, and issues.

If a MOADS/PLS ASP received 281 STON of ammunition that is not configured in MCLs and the ASP was configuring another 281 STON of ammunition, the ASP would be limited to being able to issue only 282 STON of ammunition (281 STON lift receipt + 281 STON lift rewarehousing/configuring + 282 STON lift issue = 844 STON). In an ASP, rather than having an even flow of ammunition with equal amounts of lift required for receipts, configuring, and issues, it will be more realistic for the ASP in MOADS/PLS operations to receive a large portion of the ammunition already in MCL form. Ammunition that has been configured in MCLs on PLS flatracks is ready for issue and will require little manpower from the ASP personnel to complete the issue.

If the ASPs had to temporarily perform a CSA's mission (assuming sufficient stocks were on hand), two of the ASPs could surge operations and each issue approximately 1,167 STON of ammunition, and the third ASP could issue 1,166 STON of ammunition (1,167 STON + 1,167 STON + 1,166 STON = 3,500 STON). The 1,167 or 1,166 STON exceeds an ASP's normal lift capability of 843. This can be done for short periods in a surge mode provided most of the onhand stocks have already been configured and will require minimal lifting and handling. Also, with the CSA destroyed or cut off, the ASPs will not be conducting receipt operations from the CSA, thus providing more available lift. But at some point the ASPs may be required to receive ammunition shipments directly from TA.

ASPs have limited assets for configuring loads and building MCLs. During periods when an ASP is not using its full resources for receiving and issuing ammunition, it can be building its onhand stocks into ready-for-issue MCLs. If a corps plans for its ASPs to provide any large percentage of its ammunition stocks as MCLs continually, these MCLs should be built at the CSAs and delivered to the ASPs ready for issue. Otherwise, the ASP receives most of its ammunition as B/B, single DODIC ammunition. When additional ammunition is required that was not included in the MCLs received from the CSA, customers will receive it directly from the ASP or through their respective ATP as directed.

c. Corps storage area (CSA). One or more corps Ordnance Company, Ammunition (MOADS/PLS) (CSA) will operate a CSA in the corps rear area. In the future, a combination of HLP and MLP platoons (see paragraph 5-6) will operate a CSA with a minimum of one MLP required at each CSA to meet the MCL configuration workload. One CSA is normally required to support ASP and ATP operations for each committed division. Normally, the CSA will cover an area of about 40 square KM. A CSA should be established, when practical, near railheads and MSRs. When possible, choose an area with a good road network capable of supporting up to 250 trailer loads of ammunition per day. The CSA should be located within line-haul transportation range of the ASPs and ATPs it will support.

The CSA stockage objective is normally 7 to 10 DOS of ammunition and should not exceed 25,000 STON. When a CSA's stockage exceeds 25,000 STON, a second CSA should be established. The CMMC will give mission directives, stockage objectives, and priorities of issue. Under MOADS/PLS, the CSA will normally receive 50 percent of its ammunition from the POD and the other 50 percent from a TSA.

Also under MOADS/PLS, a CSA can normally provide a total ammunition lift capability of 7,000 STON per day. Ideally, the CSA should be able to receive 3,500 STON of ammunition, and configure and issue another 3,500 STON of ammunition per day. This is the doctrinal intent, but these numbers are situationally dependent and could be adjusted to fit a specific scenario. Because the CSA's normal lift capability is a total of 7,000 STON, if the CSA is receiving, configuring, and issuing an even flow, a possible breakdown might be receipts of 2,333 STON, reconfiguring 2,333 STON, and issuing 2,334 STON

of ammunition (2,333 + 2,333 + 2,334 = 7,000 STON). This type of even flow is not likely. A large percentage of the ammunition the CSA will handle will require little handling with minimal to no configuring; e.g., multiple-launch rocket system (MLRS) ammunition.

The CSA's actual tonnage capabilities, as well as other supply points, may vary considerably based on the ammunition types and configurations being received and issued. The tonnage capabilities may surge above the planned peak load or fall well below the planned, normal capabilities due to these changes and the efficiency with which it is handled.

5-9. TRANSPORTATION

Corps-level ammunition units must rely on corps-level transportation units to distribute ammunition stocks since the limited organic transportation assets in ammunition units can only meet internal transportation requirements. As a general rule, once a CSA receives ammunition, corps transportation units move all ammunition within the corps.

Truck companies from the rear CSG's transportation battalion normally support CSAs. They move ammunition from the CSA to the ASPs and ATPs. Truck companies assigned to the forward CSGs normally support distribution from the ASPs as the CMCC tasks. Commanders may develop a habitual relationship between PLS truck companies and supported ordnance ammunition companies to expedite support since the transportation medium truck company (PLS) primarily moves class V under MOADS/PLS. However, if there are insufficient PLS assets to accomplish the mission, the CMCC can also task medium truck companies, container/cargo using S&P semitrailers to transport ammunition. Movement could also occur on HNS military or civilian transportation assets and through preplanned or emergency air resupply.

The CMCC will allocate transportation assets to support ammunition companies based on movement priorities, anticipated ammunition consumption, ammunition availability, and other such factors. Once an ammunition shipment is loaded on corps trucks, the cargo and destination are verified and radio frequency tags are placed on the load. The radio frequency tag allows in-transit visibility (ITV) of all ammunition shipments. Delivery coordinates and arrival time are forwarded to the receiving unit or activity, with information copies furnished to the DAO, the FSB support operations officer (SPO), the DAO representative, and the S4. After delivering ammunition forward, corps trucks pick up empty PLS flatracks or S&P trailers located at the ASP or ATP for backhaul to the rear.

5-10. HOST NATION SUPPORT

Agreements between the United States and other nations identify dedicated sources of host nation support (HNS). During combined operations, HNS organizations can augment the corps' conventional ammunition support organization. National agreements define the interaction between HNS and US units. Depending on the support agreements for the theater of operations, the host nation could provide ammunition supply units and battalions to augment conventional GS ammunition operations.

In more mature theaters, the host nation may provide ammunition units under the wartime host nation support (WHNS) system. This system includes ammunition units manned in peacetime by local nationals who are also members of the HN military reserves. Upon mobilization of the HN reserves, the local nationals would stay in place and operate under the C^2 of a US ordnance company (ammunition) (WHNS). The ordnance company (ammunition) (WHNS) controls the US ammunition in WHNS ammunition supply units'custody. It provides ammunition accountability, quality assurance and surveillance, and mission directives to the HNS unit and serves as the interface between the US ammunition supply system, CMMC, and WHNS ammunition companies.

5-11. FORCE XXI AMMUNITION SUPPORT CHANGES

Arming support doctrine for Force XXI is still developing. However, it is clear that arming support will follow the shift from a supply-based system under AOE to an advanced distribution-based structure that is affecting all CSS support doctrine. Operations Desert Shield and Desert Storm proved that future conflicts will not require the massive tonnage of class V stocks needed to support the European AirLand Battle forces of the 1980s. Consequently, ammunition support will move away from the old system based on large volumes of class V stocks at each echelon to a system that leverages battlefield distribution and allows for smaller class V stocks in theater. In the future, most major military operations will be joint or multinational and based on unexpected contingencies. These future operations also require the ammunition support system to be modular, tailorable, easily deployable, and flexible.

Generally, ammunition support under Force XXI will follow the same flow on a battlefield as that shown in figure 5-1. Initiatives such as total asset visibility (TAV), modular ammunition units, improved distribution vehicles (such as PLS), and strategic-configured load (SCL) use enable the ammunition support system for Force XXI to adopt several conceptual tenets that describe required capabilities for ammunition support under Force XXI. These tenets follow:

a. The capability to rapidly project ammunition support organizations worldwide to support operations. The system must be able to simultaneously support initial deployment and provide sustainment stocks to deployed combat forces.

b. An ammunition system that is seamless, from the CONUS sustainment base to the combat zone (CZ). Communications between a theater and CONUS and intermodal operations must result in no disruption to class V flow. The link between wholesale and retail ammunition systems should be transparent to all system operators and customers.

c. The ammunition system will continue to anticipate combined arms forces' requirements and, by optimizing distribution efficiencies and new technology, will provide responsive ammunition support at the right place and time.

d. Modular ammunition units located at division and corps level will be flexible enough to rapidly move and reinforce ammunition units at any level of the system.

e. Under Ammo XXI, ammunition throughput will be maximized. The ammunition distribution system will leverage the battlefield distribution system to move configured ammunition loads from the point of construction directly to the user at the foxhole, thus bypassing layers of logistics nodes. In the case of SCLs that require no reconfiguration, these loads will move from CONUS depots through the ports of embarkation and debarkation directly to the brigade ATP.

f. As the DOD executive agent for ammunition logistics, the Army's ammunition logistics system must be completely interoperable with any joint and multinational forces on the battlefield.

5-12. EXPLOSIVE ORDNANCE DISPOSAL OVERVIEW

The strategic environment, even after the cold war, is both dangerous and ambiguous. Increased instability in the world has resulted in regional conflicts, civil wars, insurgencies, terrorist attacks, drug trafficking, and a variety of attempts at intimidation. With this threat, unexploded ordnance (UXO) and improvised explosive devices will reduce the commander's combat power and national political, economic, military, and informational power during MOOTW. Because of this threat, commanders at all levels must incorporate explosive ordnance disposal (EOD) support into their planning processes. This will ensure commanders will be able to respond to these worldwide strategic challenges across a full range of operations as part of a joint team. All Army units must be able to cope with UXO on the battlefield. This calls

for awareness training for all soldiers and for procedures that limit UXO's effects on operations. Refer to FM 21-16 for more information on the UXO problem.

During war, EOD support helps preserve the commander's combat power by identifying and neutralizing conventional high-explosive, chemical, biological, or nuclear UXOs or improvised explosive devices that could injure or kill soldiers, or damage or destroy equipment, materiel, and facilities. EOD's challenge is to help maintain the maneuver, firepower, sustainment, and protection functions across the full range of Army operations.

In a theater of operations, the TA is allocated one ordnance group (EOD). The EOD group conducts theater EOD planning and EOD C^2. Additionally, the group provides staff planning for EOD operations throughout the entire theater, making the group EOD commander the EAC EOD staff officer. It implements the TA commander's priorities for EOD support of theater operations. This group provides C^2 for 2 to 6 EOD battalions, each with 3 to 10 EOD companies.

The EOD battalion commands and controls EOD units in the corps. An EOD battalion is allotted for each corps and TAACOM. The EOD battalion provides C^2 for 3 to 10 EOD companies. A deployed corps in a fully developed theater will have up to 10 EOD companies providing support. The EOD battalion commander is the EOD staff officer for the corps or TAACOM. In the corps, the EOD battalion operates out of the COSCOM and provides a coordination team to the corps rear CP. The coordination team helps the corps staff prioritize and assign categories for UXO incidents by providing technical information to the corps rear CP.

The EOD company's primary function is to support the corps and TAACOM units. In the corps, the companies are located in CSGs and CSBs. A CSB supports each division in the corps that, in turn, an EOD company will support. The EOD company that supports the CSB supports on an area basis and will go forward to support operations in the division area as required. EOD companies not in DS of a CSB receive GS responsibilities within the corps. The CSG or CSB the EOD company supports, in turn, supports the EOD company in all classes of supply, messing, billeting, and maintenance above unit level. Although CSGs and CSBs support EOD companies, EOD command channels issue their taskings and missions. Whether in a TAACOM or corps, EOD companies are assigned according to battlefield needs as the EOD battalion commander and, ultimately, the corps and MACOM commanders see fit. The EOD structure's flexibility using METT-TC permits EOD assets to support the commander's concept of operations.

CHAPTER 6

FUELING THE FORCE

6-1. INTRODUCTION

The modern US Army corps uses as much fuel per day as General George S. Patton's entire Third Army used in its race across France. More recently, during the ground offensive in Desert Storm, the VII Corps required 2.4 million gallons daily, and the XVIII Airborne Corps needed 2.1 million gallons of fuel. This equates to 900 5,000-gallon tanker loads a day. These quantities of fuel presented a monumental task for the fuel transporters [medium petroleum, oils, and lubricants (POL) companies] that was only compounded by the extended desert LOC. Obviously, fuel consumption in the modern Army is tremendous, whether we are operating in a desert or jungle environment. Getting the needed fuel to the right place at the right time is a major sustainment challenge.

6-2. FUELING THE CORPS FORCE

The corps force can move and support the attack only as long as vehicles and aircraft have fuel. The COSCOM may need to supply more than 500,000 gallons of fuel per day to support a heavy division sector. Nondivision elements may require an additional 80,000 gallons each day. To support a corps' total requirement, its COSCOM petroleum supply units and DS supply units must stock sufficient quantities in dispersed class III points.

So that fuel does not become a logistics constraint, the supporting transportation distribution system will need to provide rapid fuel resupply distribution ranging in quantities from 1,500,000 to 1,800,000 gallons per day for committed forces in a corps. For surge operations, this requirement could increase to as much as 2,300,000 gallons per day.

6-3. DIVISION BULK FUEL DISTRIBUTION

The required bulk fuel in the division area is based on forecasted requirements bulk fuel users generate. The G4 determines the frequency of forecast. Maneuver brigade S4s [in coordination with FSB/DASB support operations officers (SPOs)] receive and total the forecasts from all bulk fuel users in the brigade area. S4s will forecast requirements for the next 72 hours based on projected consumption data for the probable level of activity. The DMMC class III(b) branch forwards the consolidated division forecast to the CMMC class III(b) branch for programmed delivery.

The DMMC class III and water supply branch centrally controls and manages the bulk fuel supply to division elements. It consolidates a 3-day fuel forecast from brigade and separate battalion S4s. Forecast frequency may vary depending on the intensity of operations. Priorities, allocations, and other controls for bulk fuels may be recommended to the division commander for approval through the G4. The DMMC will then provide fuel allocation guidance to the MSB.

The MSB S&S company receives, stores, and issues class III(b). The MSB stores class III(b) in collapsible storage tanks or fuel bags. Storage capability is greater at the MSB than at the FSB; however, mobility is reduced. Site preparation is necessary to ensure the collapsible storage tanks are properly placed. The MSB provides either DS or reinforcing DS to all divisional units in the division rear and to the FSB supply companies.

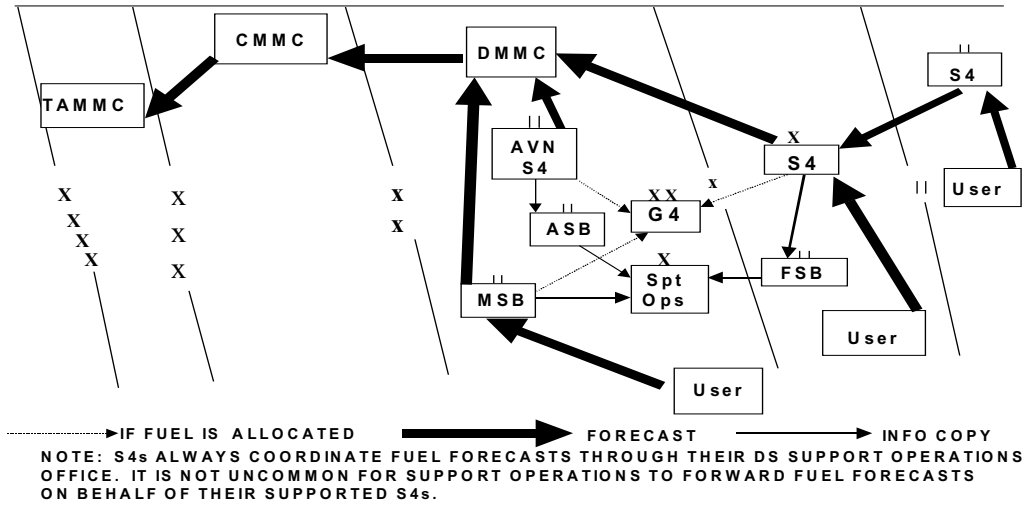


Figure 6-1. Bulk fuel forecast system.

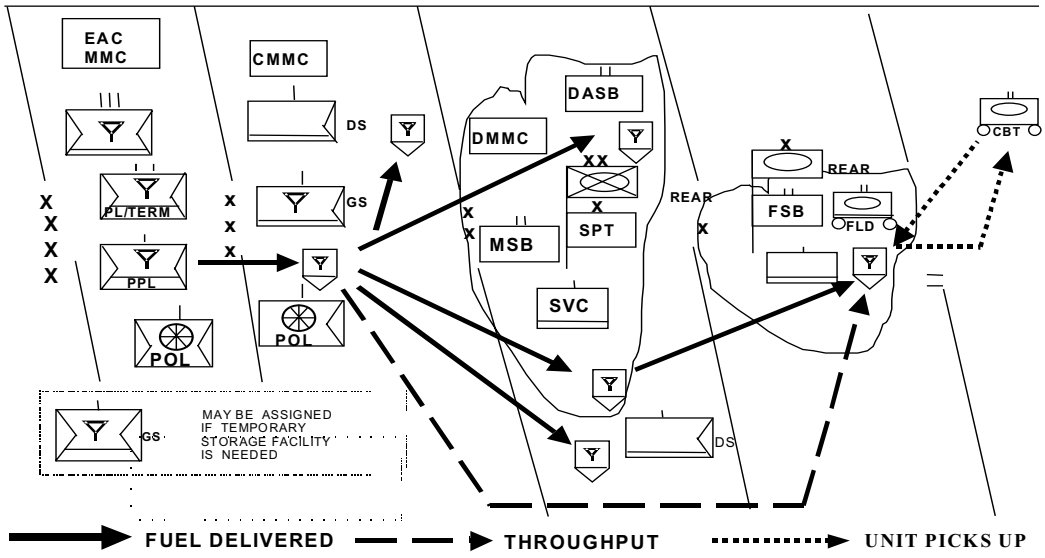


Figure 6-2. Bulk fuel distribution system.

Figures 6-1 and 6-2 depict the bulk fuel forecasting and distribution systems. The FSB supply company handles bulk fuel in DS of the maneuver brigade and its slice elements. It submits daily status on quantities received, issued, and on hand to the DMMC. Medium trucks (petroleum) from the MSB S&S company deliver bulk fuel to FSB medium trucks (petroleum). [Note: Medium truck (petroleum) refers to POL tankers or trailers.] Deliveries are coordinated with the supply company commander through the FSB SPO. Either fuel is transferred from one tanker to another, or a trailer transfer operation will take place. If TTP operations take place, procedures are established in the division's SOP and routinely practiced within the division.

The DASB supports the aviation brigade (AB). If the division cavalry squadron is positioned at a distance from the AB, the DASB may have to coordinate with the DMMC to provide more effective support. The FSB and the DASB use supply point distribution to support their customers. Tactical units pick up fuel in a BSA with organic refueling vehicles and deliver it by tailgate or service-station LOGPAC method. The COSCOM habitually provides class III(b) resupply for the AB using throughput distribution to the DASB.

6-4. ECHELON-ABOVE-DIVISION (EAD) BULK FUEL DISTRIBUTION

DMMCs, separate brigades, and ACRs will forecast their requirements to the CMMC. The CMMC petroleum/water division will compare bulk requirements against quantities available for issue. The COSCOM support operations may direct that the CMMC adjust forecasted deliveries based on corps-issued priorities and tactical support requirements. It is in this manner that class III(b) is a scheduled supply that is "pushed" forward on a schedule. However, the operational and tactical situations may dictate that class III(b) become a demanded commodity and move the fuel to where it is needed the most to enable decisive victory. In this scenario, coordination is critical. Some Force XXI enablers, such as total asset visibility (TAV) and battlefield situational awareness, will greatly enhance demanded fuel operations. As appropriate, the CMMC submits consolidated requirements to the TAMMC or Joint Petroleum Office.

The TA petroleum group distributes bulk fuel either by pipeline, barge, railcar, truck, or a combination of transportation modes to the farthest points practicable in the corps. Transportation medium truck companies (petroleum) transport fuel from the COMMZ to corps class III(b) supply points that CSG/CSB petroleum supply companies and nondivision DS supply companies operate. A medium petroleum truck company then delivers/pushes the fuel from the corps GS quartermaster (QM) petroleum supply company to the MSB in the DSA, the FSB in the BSA (METT-TC dependent), the DASB, separate brigade support battalion, and ACR support squadron. To meet unexpected requirements, the CMMC may divert or reroute fuel being transported from COMMZ stocks to appropriate forward-located CSB (fwd) and divisional class III(b) supply points. Currently, throughput distribution is the most responsive way to distribute bulk POL.

The QM DS supply company of the CSB (fwd) provides fuel by supply point distribution for nondivisional units. This means supported units drive organic POL tank vehicles to their supporting DS-level class III supply point. However, if the customer or using unit operates closer to a GS petroleum supply company, the administrative/logistics plan may direct the unit to obtain fuel from the GS-level source. The effort should be to support customers within the unit's capability and to provide that support sensibly and however it best supports the tactical situation.

Aerial resupply using 500-gallon drums provides emergency resupply when ground LOCs are not secure or available, or when the enemy or tactical situation cuts the unit off from normal resupply. Aerial resupply may be the only way to sustain light forces or small-scale operations beyond the FLOT. An airdrop supply company will prepare loads for fixed-wing aircraft delivery. As required, DS supply company personnel will sling load 500-gallon drums for helicopter external sling load. The receiving unit must be able to dispense from the drums, or essential components of the forward area refueling equipment (FARE) system must accompany the fuel delivery.

6-5. CONTROL PROCEDURES/MATERIEL MANAGEMENT

The CMMC centralizes inventory control. It receives requirements (forecasts) from the corps' subordinate units and usage reports from petroleum suppliers. The system supplies bulk petroleum by immediately replacing the quantities issued. The COSCOM commander must provide necessary information to the corps commander for decisions affecting current and future operations. Control measures such as fuel allocation, restricted fuel consumption, or prioritizing fuel distribution may be imposed to ensure tactical

support requirements are met. The corps G4, in coordination with the COSCOM commander, will recommend control measures to the corps commander based on G3 input on the tactical operation.

The CMMC centrally manages bulk petroleum for the corps. Unlike any other supply commodity, the CMMC also centrally controls nondivisional bulk petroleum transportation assets within the corps. It receives and coordinates forecasted requirements and directs bulk petroleum distribution. It reports distribution problems that deviate from the routine to the COSCOM support operations that develop a solution and direct appropriate action.

6-6. HABITUAL SUPPORT REQUIREMENT

Bulk fuel distribution relies on the habitual support relationship between GS petroleum supply companies and transportation medium truck companies (petroleum). Assigning a petroleum supply company and a habitually supporting truck company to each forward CSG enables the CSG to control the fuel distribution system that supports the daily bulk fuel operational requirements in its AOR.

6-7. PLANNING FUEL SUSTAINMENT SUPPORT

To support the movement and momentum of initial clashes, the COSCOM must push fuel forward and deep from the battle's very outset. Petroleum officers will preplan bulk fuel resupply. Plans will need to include uninterrupted fuel flow to joint or combined operational forces. The COSCOM support operations section ensures that the corps class III(b) distribution plan agrees with the TA inland distribution plan for bulk fuel.

The petroleum planner must consider time, space, distance, terrain, existing resources, scope of requirements, and operating environment. More specifically, he must consider—

- Number and types of fuel-consuming equipment that use motor gasoline (MOGAS), diesel, and JP-8.
- Subordinate units' availability and capability to provide the required support.
- Number and location of distribution points, including throughput distribution.
- Transportation mode (pipeline, rail, barge, or truck).
- Type of terrain, time, and distance between units.

6-8. FUEL ORGANIZATIONS

a. Supply company. Assigned to each heavy division FSB to provide DS to a maneuver brigade and its associated slice elements. Its fuel capability consists of 11 5,000-gallon tankers.

b. S&S company. Assigned to a heavy division MSB to provide DS or reinforcing DS to divisional units in the division rear and FSB supply companies. Two fuel system supply points (FSSPs) are available for storage and 34 tankers for distribution.

c. Headquarters and supply company (HSC). Assigned to a DASB to provide DS to the AB and its associated slice elements. One FSSP, 15 HEMTTs, 6 tankers, and 8 FAREs are used for fuel support.

d. QM supply company (DS). Assigned to rear or forward CSGs with the basis of allocation to support 18,500 soldiers. Provides DS-level bulk fuel to nondivision units. Forward CSGs normally employ a DS supply company in the division area to support nondivision units operating in the division sector. Also provides reinforcing support to FSBs and MSBs to enable them to support corps forces employing in

the brigade or division area. Two FSSPs—120,000 gallons of bulk fuel storage—provide supply point distribution.

e. Petroleum supply company (GS). Assigned to a forward or rear CSG to provide corpswide GS-level bulk fuel support to nondivision DS supply companies, DISCOM MSBs, separate brigade support battalions, and ACR support squadrons. These companies also maintain a prescribed portion of the corps' petroleum reserve. Normally, a petroleum supply company cannot support more than one corps division slice. It can receive or issue 1,244,558 gallons of bulk fuel and store 2,520,000 gallons.

f. Medium truck company (petroleum). Assigned to the forward and rear CSGs with a habitual relationship with the petroleum supply company. It transports bulk fuel from GS petroleum supply companies to DS supply companies and to divisions. Each company has 60 5,000-gallon tankers providing 900,000 gallons of local haul (4 round-trips per day) and 450,000 gallons of line-haul distribution (2 round-trips per day). (Note: The 7,500-gallon tankers are allocated at EAC only.)

g. Petroleum product laboratory (mobile) team. Normally attached to the petroleum supply battalion in the rear CSG to test fuel and provide technical assistance. Can also be assigned to a petroleum terminal pipeline battalion as necessary.

h. Petroleum pipeline and terminal operating company. Normally assigned to EAC but could be assigned in a COSCOM for independent corps operations. It operates a tactical petroleum terminal or existing fixed facilities and loading facilities, and can operate petroleum pipelines. Current doctrine requires a pipeline construction engineer company to initially lay the pipeline and establish the pump stations to turn over to the QM petroleum pipeline and terminal operating company to operate. Pipeline equipment is not TOE, but it is included in operational project stocks that Department of the Army (DA) controls.

i. HQ, petroleum supply battalion. May be required for C^2 if three or more petroleum supply companies are assigned to the corps.

j. HQ, petroleum pipeline and terminal operation battalion. May be required for C^2 if three or more petroleum pipeline and terminal operating companies are assigned to the independent/contingency corps.

k. Petroleum supply cellular logistics team (CLT). Normally assigned to a CSG to provide liaison with and interface between an HNS petroleum supply battalion and the US petroleum distribution system.

6-9. REFUELING ON THE MOVE (ROM)

A ROM for ground vehicles is a resupply technique that is synonymous with rapid or hot refueling for aircraft. When vehicles enter a ROM site for refueling, they receive a short burst of fuel (usually timed for 3 to 4 minutes) and move out to return to their convoy or formation. It is normally accomplished far forward on the battlefield before reaching a tactical assembly area. This differs from normal resupply that will "top off" the receiving vehicle.

METT-TC must be considered when planning for a ROM. The brigade S3, brigade S4, and FSB SPO must identify, plan, and conduct the type of ROM operation that best supports the commander's scheme of maneuver. They must consider the risk of enemy interdiction, availability of sufficient space, time to complete the ROM, and methods of masking friendly actions so as not to reveal our intent to the enemy. ROM operations are equipment-intensive, high-risk, and may require support from higher organizations.

A ROM is equipment-independent. As long as we follow the concept, we can use any number of current equipment configurations to accomplish a ROM operation. Any unit can employ a ROM operation anywhere on the battlefield where there is a need to rapidly refuel combat vehicles. A number of equipment configurations can be employed.

A ROM kit consists of enough hoses, valves, and fittings to refuel up to eight combat vehicles simultaneously. In addition, a fuel source [one or more 5,000-gallon semitrailers, HEMTTs, tank and pump units (TPUs), or collapsible fuel bags] must be added to the configuration. If JP-4/JP-8 or MOGAS is issued, a filter separator is also required. A 350-gallon per minute (GPM) pump can be added to provide a greater flow rate than the organic pump on the fuel carrier. The common table of allowances (CTA) authorizes ROM kits.

Bulk fuel carriers are one or more 5,000-gallon semitrailers, 2,500-gallon HEMTTs, or 1,200- to 1,800-gallon TPUs that can be employed to ROM combat vehicles. Equipment and their flow rates follow:

a. HEMTT: 50 GPM from two organic nozzles (2,500-gallon capacity, cross-country capability, organic to maneuver battalions).

b. TPU: 20 GPM from two organic nozzles (1,200-gallon capacity with two 600-gallon pods mounted on a 5-ton truck with a pump can pull an additional 600-gallon pod mounted on a 5-ton trailer). TPUs are replaced by HEMTTs. Very few are in the field now.

c. 5,000-gallon tanker and ROM kit: 35 GPM from each of eight nozzles.

d. 5,000-gallon tanker: 50 GPM from two organic nozzles.

Organic pumps on fuel carriers are actually greater than these figures; i.e., the 5,000-gallon tanker model M969 has a 600-GPM pump. The limiting factor here is based on the receiving vehicle's acceptance rate and the number and size of the nozzles. A ROM kit has eight 1½-inch nozzles. Most vehicles' acceptance rate is 50 GPM or less. For example, you can plan for an M1 tank receiving approximately 100 gallons in a 2-minute ROM.

6-10. SINGLE FUEL ON THE BATTLEFIELD

All US military services converted to JP-8, the single fuel on the battlefield. A single fuel greatly facilitates managing and distributing fuel on the battlefield. JP-8 has a higher flash point than JP-4, a petroleum characteristic that provides greater safety. It is a suitable substitute for JP-4, diesel fuel, and MOGAS. The US Navy continues to use JP-5 when refueling aircraft at sea. The goal is for JP-8 to be issued to all US military organizations around the world.

Army MOGAS-burning equipment; i.e., M-2 burners, generators, etc., must be replaced with a multi-fuel-burning piece of equipment. The projected date for replacing all MOGAS-burning equipment is 2005. Obviously, this depends heavily on budget constraints. MOGAS is available as a packaged product in 55-gallon drums.

CHAPTER 1

BRIGADE AREA LOGISTICS
(Company Through Brigade)

1-1. INTRODUCTION

a. Army units accomplish combat, combat support (CS), and CSS missions. Combat units fight the battle to deter, defeat, or destroy the enemy. Examples of combat elements are infantry, mechanized infantry, armor, and attack helicopter units. CS units provide operational and tactical assistance to combat elements. Examples of CS units include signal battalions, field artillery (FA) battalions, combat engineer battalions, military police (MP) companies, and military intelligence (MI) companies. CSS units perform logistics functions. Examples of CSS units are main support battalions (MSBs), forward support battalions (FSBs), corps support battalions (CSBs), maintenance companies, supply and/or service companies, transportation companies, and medical companies. This chapter discusses Army of Excellence (AOE) CSS doctrine in the brigade area (that is also applied to the Limited Conversion Division) and emerging Force XXI CSS doctrine in the brigade area.

b. Logistics is the process of planning, executing, and sustaining support for military operations. It provides the physical means from which forces operate, from industrial production base and replacement centers in the United States to soldiers in contact with the enemy. It is an overarching process that occurs across the range of military operations and at all levels of war. Geographic conditions, space and time dimensions, and a determined enemy work to make logistics operations difficult. Logistics operations are planned so they continue to resource forces throughout conflict, adapting as conditions change. A dependable uninterrupted logistics system helps commanders seize and maintain the initiative. The logistics objective is to ensure successful operations.

c. Logistics arrangements cannot be so meager that they do not meet commanders' needs as they execute operations, nor can they be so excessive that they overwhelm commanders' abilities to move, protect, and employ them. The logistics system must strike a balance, providing sufficient support to resource operations through the peaks and valleys of their duration without burdening commanders with more support than is necessary to succeed. Three levels of logistics support correlate to the three levels of war.

(1) Strategic logistics [Field Manual (FM) 100-17] supports attaining broad goals and objectives the National Command Authorities (NCA) establish in national security policies. It is largely the purview of the continental United States (CONUS) industrial and civilian sector. Strategic logistics deals with mobilization, acquisition, requirements determination, projecting forces, strategic mobility, stockpiling/ maritime pre-positioning, concentrating logistics in a theater base and communications zone (COMMZ), and demobilization.

(2) Operational logistics (FM 100-16) supports the commander in chief's (CINC's) plan in either a mature or immature theater. Operational support attempts to balance current consumption with subsequent major operations' needs. Its function is to sustain the force in the theater of operations consistent with the CINC's strategic logistics priorities by focusing on areas such as facilities, personnel, materiel, and distribution management; force reception, staging, onward movement, and integration (RSOI); establishing and maintaining lines of communication (LOCs); movement control functions; combat health support (CHS); reconstitution; managing theater reserves; and redeployment. Operational logistics encompasses those support activities required to resource campaigns and major operations. It links strategic logistics to tactical logistics on the battlefield, ensuring success at the tactical level.

(3) Tactical logistics (FM 100-10) supports the tactical commander's battles and engagements. Successful tactical logistics provides the right support at the right time and place. The focus at this level is on the tactical logistics functions of manning, arming, fueling, fixing, moving, and sustaining soldiers and equipment.

d. FM 100-10 discusses logistics characteristics that provide a framework for logisticians to use when planning and executing logistics operations. These characteristics are anticipation (of mission requirements), integration (of logistics and tactical plans), continuity (of support to the commander), responsiveness (of logistics support in meeting changing requirements), and improvisation (of innovative methods of support). Logisticians can contribute greatly to success on the battlefield by adhering to these characteristics.

e. A variety of organizations provide support to Army forces in the field. Those organizations range in size from several soldiers at company level to hundreds of soldiers at theater army (TA) level. CSS organizations are either fixed or tailored to meet anticipated logistics requirements. At corps and TA, logistics organizations are tailored to meet supported organizations' anticipated needs. The logistics system's basic building block above division level is the company or detachment-sized element. Up through division level, the logistics organization is generally fixed by a TOE; however, corps augmentation can provide additional capabilities.

1-2. COMPANY-LEVEL SUPPORT (MANEUVER COMPANY)

a. A company (battery or troop) team is the lowest level administrative and tactical organization with personnel designated to perform logistics functions (the company supply section). A typical maneuver company team receives support from two principal sources: the battalion task force (TF) headquarters (HQ) and its own HQ. The logistics burden is largely removed from the company team commander and placed under the battalion TF's control. This allows the company team commander to concentrate on accomplishing the tactical tasks. The company team's logistics responsibility is to report its status and requirements, and ensure logistics operations are properly executed in the company area. The company executive officer (XO) and first sergeant (1SG) will normally perform this function.

(1) The company team's XO is the primary logistics planner and coordinator. During preparations for combat, he coordinates closely with the 1SG to determine what CSS logistics support is required and makes sure arrangements have been made to support the tactical plan.

(2) The 1SG is the company team's primary CSS operator; he executes the company logistics plan. The 1SG directly supervises and controls the company combat trains (normally limited to medical and maintenance activities) and company resupply operations.

(3) The supply sergeant is the company team's representative in the battalion TF field trains. He organizes the standardized resupply logistics package (LOGPAC) and moves it forward to link up with the 1SG to a designated logistics release point (LRP). The supply sergeant then assists the 1SG in conducting resupply operations at the company level.

b. The battalion TF HQ will normally provide the following support to a typical maneuver company team:

(1) A maintenance team with recovery vehicle from the maintenance platoon.

(2) An aidman from the medical platoon, along with an evacuation team, consisting of an ambulance with an aidman and ambulance driver.

(3) Fuel and ammunition transported by vehicles from the support platoon.

(4) A mess team from the support platoon when hot meals are available.

c. When company elements are cross-attached from one battalion to another, forming battalion TFs, the logistics assets necessary to provide support are also cross-attached. Higher HQ standing operating procedures (SOPs) normally establish the composition of logistics assets needed to support the cross-attached company. This organization usually includes medical and maintenance support, and supply and transportation assets to deliver classes I, III, V, and IX.

1-3. BATTALION-LEVEL SUPPORT

a. Under AOE doctrine, the maneuver battalions in a heavy division have organic CSS elements within the headquarters and headquarters company (HHC). The HHC has three platoons that provide logistics to the battalion—medical, maintenance, and support platoons. FM 71-2, *The Tank and Mechanized Infantry Battalion Task Force*, chapter 8, discusses in detail the CSS platoons organic to the battalion. The CSS elements of other battalion-sized combat organizations, such as cavalry squadrons and field artillery battalions, perform essentially the same logistic functions as the platoons mentioned previously.

b. Trains are any grouping of personnel, vehicles, and equipment organized to provide CSS at company team and battalion level. Trains may be centralized in one location (unit trains), or they may be echeloned in two or more locations (echeloned trains). Under AOE doctrine, there are three types of trains—unit trains, combat trains, and field trains. The following AOE trains' concepts change in Force XXI doctrine. The author discusses these emerging doctrinal changes later in this chapter, but for now, the Force XXI changes primarily deal with mission ownership rather than logistics function changes.

(1) **Unit trains** consist of all battalion logistics assets, including company team assets, and any supporting assets from higher HQ. Unit trains are common in assembly areas (AAs) and during extended tactical marches. Once combat operations begin, the battalion commander, based on the tactical situation, will either keep all logistics assets in one location as a unit train or echelon logistics forward (figure 1-1).

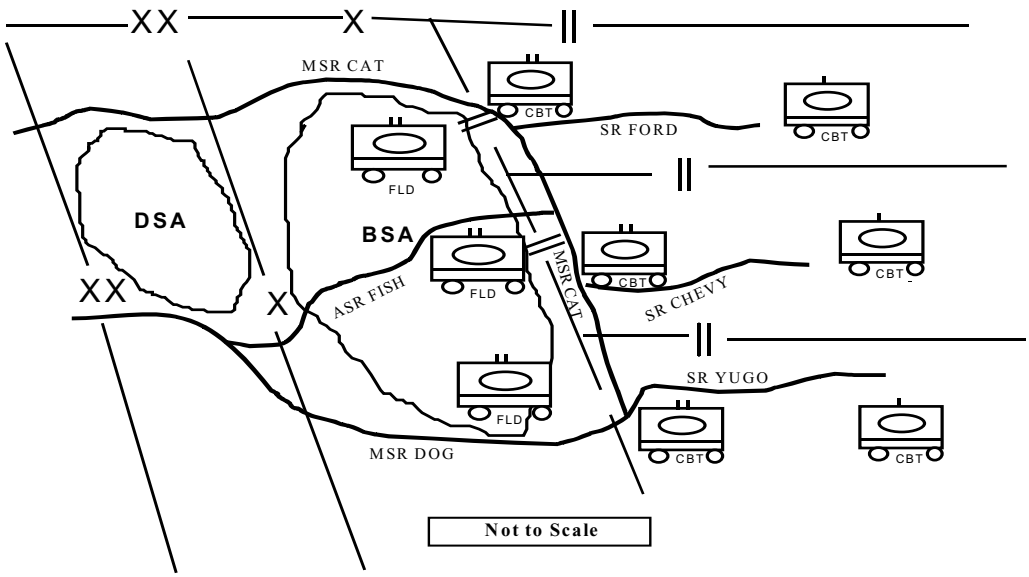


Figure 1-1. Echeloned trains (AOE).

(2) **Combat trains** are organized at company and battalion levels to support combat operations.

(*a*) *Company combat trains*. The 1SG controls the company combat trains (figure 1-2) that normally consist of medical and maintenance teams. The rest of the company logistics assets (supply section) will be at either the battalion field trains or combat trains. The company combat trains will normally operate about 500 to 1,000 meters (or one terrain feature) to the company's rear to provide immediate recovery, medical aid, and maintenance.

(*b*) *Battalion combat trains*. The battalion supply officer (S4) controls the battalion combat trains (figure 1-3). They normally consist of a command post (CP), limited amounts of class III and V (for emergency resupply), medical platoon elements [battalion aid stations (BASs)], and elements of the maintenance platoon at the unit maintenance collection point (UMCP). A maintenance support team (MST) from the FSB may also be located at the UMCP. The battalion combat trains should be close enough to the front lines to be responsive to the forward units but not within range of enemy direct fire. Normally, this distance is 4 to 8 kilometers (KM) behind the most forward company.

(3) **Battalion field trains** (figure 1-4) consist of those remaining logistics resources not required for the combat element's immediate or critical support. The HHC commander controls the field trains, and they are usually located in the brigade support area (BSA). This may be 20 to 25 KM behind the TF combat trains in the offense and 20 to 40 KM in the defense.

c. In the maneuver battalion, the battalion commander often relies on his XO to supervise overall battalion-level logistics operations. Descriptions of the functions of several of the XO's staff members follow:

(1) The adjutant (S1), with representatives at the combat trains CP and field trains, is responsible for the S1 section that provides personnel and administrative support to the battalion's soldiers. This includes monitoring unit strength, personnel, law and order, morale, and discipline. According to FM 71-2, the S1 coordinates with the medical platoon leader (a physician) to ensure that patient treatment and evacuation are planned and coordinated throughout the TF area. He is primarily responsible for enemy prisoner of war (EPW) operations planning and control.

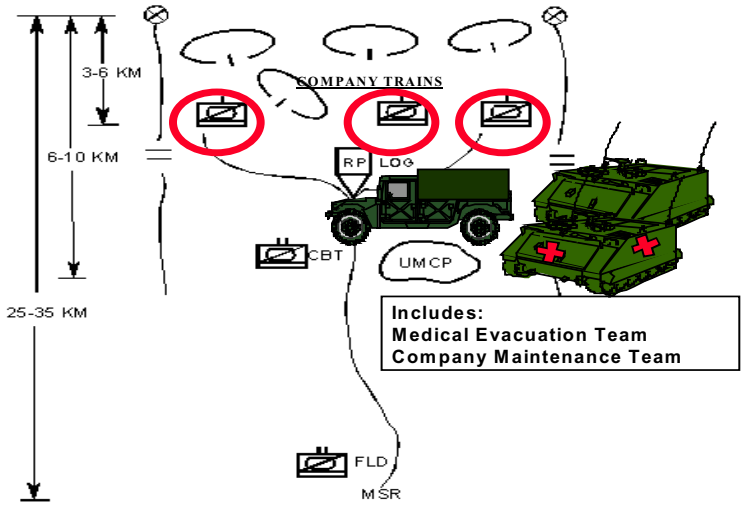


Figure 1-2. Company combat trains.

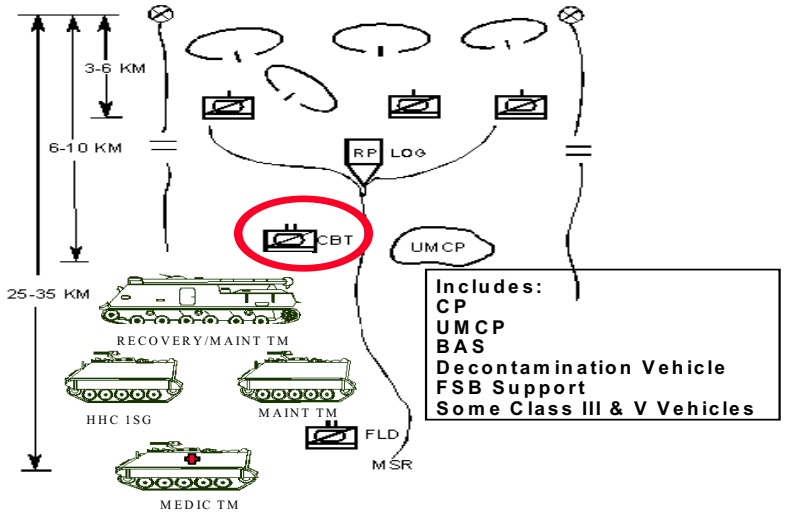


Figure 1-3. Battalion combat trains.

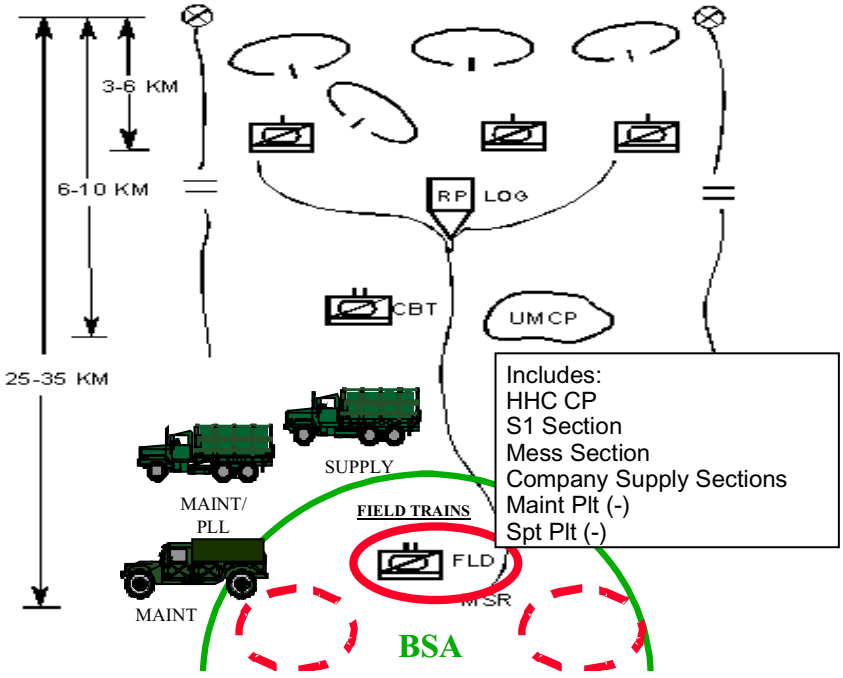


Figure 1-4. Battalion field trains.

(2) The operations and training officer (S3) recommends supply and maintenance support priorities for subordinate units. The S3 does this based on his own knowledge of current and future operations and the S4's recommendations.

(3) The S4 is the key coordinator of all battalion logistics activities. He plans, coordinates, and directly supervises the logistic effort, including preparing paragraph 4 (support concept) of the operation order (OPORD). The S4 is responsible for battalion combat train arrangements, security, and movement. S4 representatives may be found in the field and or combat trains.

(4) The HHC commander is located in the field trains and acts as the battalion TF logistics coordinator, assisting the S1 and S4 by ensuring that support from the field trains is smooth, timely, and efficient. He is responsible for field train coordination, security, and movement.

(5) The battalion maintenance officer (BMO), located at the UMCP, plans, coordinates, and supervises the maintenance platoon's maintenance and recovery efforts.

(6) The support platoon leader assists the HHC commander in the field trains' operations. His primary function is organizing the convoy for moving all company LOGPACs for resupply and leading the convoy to a designated LRP.

d. LOGPACs provide the most efficient resupply of forward battalion TF units. Under the HHC commander and support platoon leader's supervision, the company supply sergeant organizes LOGPACs in the field trains. LOGPACs are organized for each company team and separate element in the TF and moved forward at least daily for routine resupply. When possible, all LOGPACs are moved forward in a single convoy under the support platoon leader's control. Special LOGPACs may be organized and dispatched as the tactical situation and logistic demands require. The S4 must plan and coordinate LOGPAC operations to ensure they fully support the battalion TF commander's tactical plan. Task force SOP establishes the standard LOGPAC. Normally, a company team LOGPAC includes the unit supply truck with water trailer carrying rations, mail, and any other requested supplies, including replacement personnel; bulk fuel trucks; ammunition trucks; and vehicles carrying additional supplies and replacements as needed. LOGPACs move along the brigade main supply route (MSR) to an LRP where the unit 1SG or a unit guide takes control of the company LOGPAC. At the company resupply point, the 1SG controls the LOGPAC and conducts resupply operations using one of two methods.

(1) **Service-station method**. Using the service-station method, individual vehicles move back to a centrally located rearm and refuel point. Based on the enemy situation, one vehicle per platoon or section, or even an entire platoon, will pull out of the positions, resupply, and return to position(s) until the company has been resupplied.

(2) **Tailgate method**. Using the tailgate method, combat vehicles remain in place or back out of their positions a short distance so the resupply vehicle is not exposed. Fuel and ammunition trucks go to each vehicle position in turn. The tailgate method is normally conducted in an AA only. If it is employed in forward positions, terrain must mask the resupply. This procedure takes much longer than the service-station method. Once resupply operations are completed, the 1SG or the supply sergeant returns the LOGPAC to the LRP where it meets up with the support platoon leader. When possible, the reunited task force LOGPAC convoy returns to the field trains for greater security.

1-4. BRIGADE-LEVEL SUPPORT

a. Armored and mechanized brigades. Divisional maneuver brigades accomplish their missions as either pure organizations or task-organized forces. They do not have organic CSS elements other than the HHC support section that supports each HQ. Each brigade, therefore, relies on an FSB for logistics. FSBs are assigned to the division support command (DISCOM) and provide direct support (DS) to each divisional maneuver brigade. The FSB integrates logistics into the brigade commander's plan by providing logistics from the BSA, normally located 25 to 30 KM behind the forward line of own troops (FLOT) and 4 to 7 KM in diameter, assuming mission, enemy, troops, terrain and weather, time available, and civilians (METT-TC).

(1) The brigade commander plans and integrates all aspects of brigade operations, including logistics, in the brigade area of operations (AO). The brigade S1 and S4, the FSB commander, and the FSB support operations officer (SPO) are the brigade commander's primary CSS planners and operators.

(2) The brigade S1 normally operates in the brigade rear CP located in the BSA with the S4 section. The S1 is responsible to the brigade commander for monitoring unit strength, personnel, law and order, morale, and discipline; preparing personnel estimates that identify the strengths and weaknesses of tactical courses of action; and identifying the tactical plan's personnel requirements. According to FM 71-2, page 1-5, the S1 coordinates medical support and is primarily responsible for EPW operational planning and control.

(3) The brigade S4 provides logistics information to the commander and functions as the brigade's logistics planner. He plans, coordinates, and directly supervises the brigade's logistic effort, including preparing paragraph 4 (support concept) of the OPORD. He coordinates with the battalion XOs and S4s on equipment and supply status. The S4 coordinates with the FSB commander and SPO to ensure they understand and support the brigade commander's logistics priorities.

b. Forward support battalion (FSB) under current AOE division.

(1) The FSB is that part of the DISCOM that is task-organized to provide dedicated DS-level logistics support for a specific maneuver brigade in tactical operations. The FSB's primary role is to provide DS to the brigade and divisional units operating in the brigade area. The FSB must support current operations and monitor the support plan's implementation in conjunction with the brigade S4. The FSB must also plan to support future operations. In addition, the FSB organizes all units in the BSA for defense and is responsible to the brigade commander for this mission. The DISCOM reinforces maintenance, medical, and supply capabilities when the brigade's mission or size dictates. When the FSB is tasked to provide support to nondivisional units in the brigade area, corps logistics elements must augmented it. The FSB is organized with a headquarters and headquarters detachment (HHD), supply company, maintenance company, and medical company (figure 1-5).

(*a*) The HHD consists of a battalion HQ and an HQ detachment. The HQ detachment billets, disciplines, secures, trains, and administers to personnel assigned to the HHD. The S1 can serve as the detachment commander. All positions in the detachment, other than food service personnel, are additional duty assignments for personnel in the battalion HQ. The battalion HQ has five staff sections: command, support operations, S1, S2/S3, and S4. The battalion HQ missions include—

- Commanding and controlling (C^2) organic and attached units.
- C^2 of all units in the BSA for security and terrain management.
- Planning, directing, and supervising the support the FSB provides to division units in the brigade area.
- Coordinating support to corps units in the brigade area.

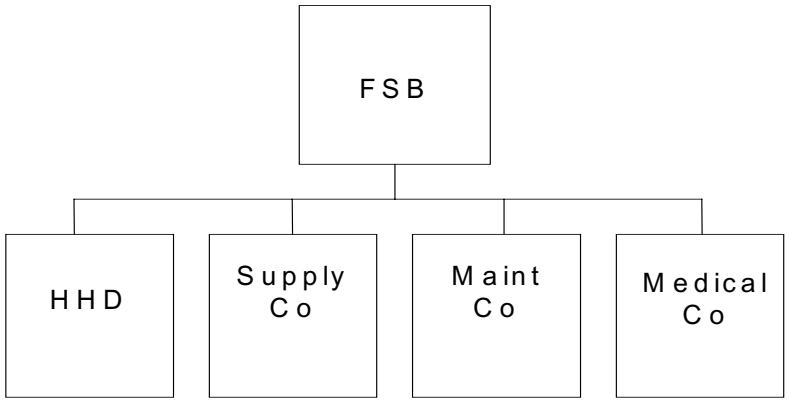


Figure 1-5. FSB in support of an armored and mechanized infantry brigade using AOE doctrine.

- Providing information and advice on FSB support to the supported brigade and DISCOM's commander and staff.
- Planning, directing, and supervising the administration, training, and internal logistics support for organic and attached battalion units.

(*b*) The supply company consists of a company HQ and a supply platoon. The company—

- Receives, stores, and issues class I, II, III (packaged), IV (limited), and VII supplies as well as unclassified maps.
- Receives, stores, and issues class III (bulk) petroleum using organic fuel transportation assets.
- Transloads class V supplies from corps transportation assets to unit vehicles.
- Operates a salvage point for all supplies except communications security (COMSEC) equipment supplies, toxic agents, aircraft, ammunition, explosives, and medical items.
- Provides unit maintenance for HHD and other organic vehicles and equipment.

(*c*) The maintenance company consists of a company HQ and five other sections or platoons. The company's organization is further adjusted based on the number of tank or mechanized battalions it must support. The adjustment is made by task-organizing system support teams (SSTs) into MSTs designed to provide DS-level maintenance support to an armor, artillery, engineer, or mechanized infantry battalion. The company—

- Provides DS maintenance to supported units in the brigade area.
- Provides limited backup recovery assistance to supported units when required.
- Provides technical assistance to supported units that perform unit-level maintenance within the brigade.
- Provides technical supervision of supply of prescribed load list (PLL) items for supported units.
- Maintains an authorized stockage list (ASL) of class IX repair parts to support the items stocked in support units' combat PLLs.

(*d*) The medical company consists of a company HQ, treatment platoon, and ambulance platoon. The company—

- Provides level II CHS on an area basis for the brigade's organic and attached elements and other units operating in the BSA.
- Receives and sorts patients and provides initial medical and resuscitative care.
- Evacuates casualties from the maneuver BAS to its clearing station.
- Provides emergency dental care and limited lab and radiology services.
- Provides medical resupply to units in the brigade area.
- Provides patient holding for up to 40 patients who are able to return to duty (RTD) within 72 hours.

(2) The FSB commander is the brigade commander's logistics operator. He advises the brigade commander on all logistics functions throughout the brigade and serves as the BSA commander. He has operational control (OPCON) over all units and elements within the BSA, for CSS activity, movement, security, terrain management (positioning), and synchronization. He must balance the need for security

against the need for dispersion. Specific missions, condition of road nets, and disposition of other troops in the area influence the distance between troop units. It may be necessary, because of terrain restrictions or a guerrilla threat, to limit dispersing logistic facilities even when there is a nuclear, biological, and chemical (NBC) threat. Ideally, logistics activities disperse far enough to avoid more than one unit being destroyed; however, too much dispersion tends to reduce operational efficiency. It also increases logistic units' vulnerability to sabotage, pilferage, attack, and enemy conventional attack. Defense measures should be taken to ensure the least interruption in support operations. The FSB commander does not control the entire brigade rear unless the brigade commander directs otherwise and possibly provides staff augmentation.

(3) The FSB SPO coordinates and provides technical supervision for the FSB's CSS mission, including supply, maintenance, and combat health services. He advises the FSB commander on support requirements versus capabilities. He analyzes the FSB's ability to support requirements, plans and monitors support operations, makes necessary adjustments to ensure support requirements are met, and manages BSA security and terrain. The SPO also coordinates with the DISCOM for reinforcing support as required.

c. Division aviation brigade (AB). The division AB can accomplish its mission as a pure aviation organization or as a task-organized force. Each attack helicopter battalion has a full component of organic support assets in its HHC and aviation maintenance company (AMC) (D Company). The HHC has the normal complement of battalion staff and HQ company staff as well as a ground vehicle maintenance section, class III and V platoon, and medical section. The AMC performs all aviation unit maintenance (AVUM)-level maintenance and maintains the battalion aviation PLL of class IX (aviation repair parts). The division aviation support battalion (DASB) is the AB's primary source of DS logistics. The DASB provides the support link for the AB to the DISCOM units in the division support area (DSA) and BSA and to the corps support command (COSCOM). Though it locates in the division rear, it has elements operating throughout the division area. It integrates logistics into the AB commander's plan by providing logistics from the aviation BSA, normally located 60 to 70 KM behind the FLOT. This distance may be less in offensive operations and vary according to METT-TC. The AB commander plans and integrates all aspects of brigade operation, including logistics in the brigade AO. The brigade S1, S4, DASB commander, and DASB SPO are the brigade commander's primary CSS planners and operators.

(1) The brigade S1 normally operates in the brigade rear CP located in the BSA with the S4 section. The S1 is responsible to the AB commander for monitoring unit strength, personnel, morale, discipline, and law and order. The S1 prepares personnel estimates that identify the strengths and weaknesses of tactical courses of action and identifies the tactical plan's personnel requirements.

(2) The brigade S4 provides logistics information to the commander and functions as the brigade's logistics planner. He coordinates with the battalion XOs and S4s on equipment and supply status. The S4 has representatives in both the main and rear CPs and is normally collocated with the S1 in the brigade rear CP. The S4 coordinates with the DASB commander and SPO to ensure they understand and support the AB commander's logistics priorities.

d. DASB.

(1) The DASB is part of the heavy DISCOM and is task-organized to provide dedicated DS-level logistics support for the AB in tactical operations. The DASB supports current and future operations. It implements the support plan, monitors all support operations, anticipates requirements, and incorporates logistics planning guidance. In addition, the DASB organizes all units in the aviation BSA for defense and is responsible to the AB commander for this mission. The DASB has no medical capability. The AB and the DASB receive area medical support from the MSB's main support medical company (MSMC) or one of the FSBs' forward support medical companies (FSMCs). The DASB is organized with a headquarters and supply company (HSC), a ground maintenance company (GMC), and an AMC (figure 1-6).

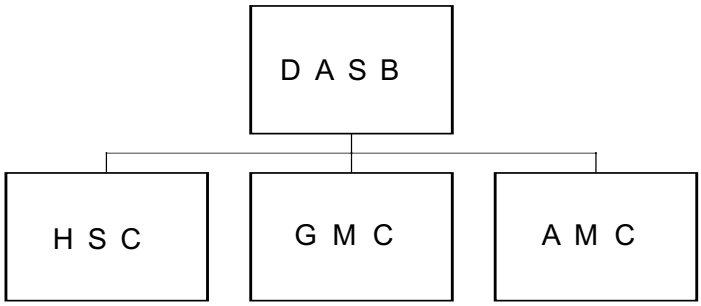


Figure 1-6. DASB in support of a heavy division AB using AOE doctrine.

(*a*) The HSC consists of a battalion HQ and a supply company. The battalion HQ has six staff sections: command, unit ministry, support operations, S1, S2/S3, and S4. The battalion HQ's missions include—

- C^2 of organic units assigned, attached, or OPCON.
- C^2 of all units in its BSA for security and terrain management.
- Planning, directing, and supervising the DS supply and maintenance missions supporting the AB.
- Providing information and advising the AB and DISCOM commanders on the DASB's support of the AB.
- Planning and supervising administration, training, and internal logistics support for attached and assigned units.

(*b*) The supply company consists of a company HQ, a general supply platoon, and a class III/V platoon. The company HQ maintains administrative control over the HSC. It is responsible for the billeting, discipline, security, training, and administration of personnel assigned to the HSC. The company—

- Receives, stores, and issues class I, II, III (packaged), IV (limited), and VII supplies as well as unclassified maps.
- Operates fuel system supply point (FSSP) equipment to receive, store, and issue bulk aviation fuel, diesel, and motor gasoline (MOGAS); receives bulk fuels from corps tankers; and off-loads fuel into collapsible fabric tanks for temporary storage and issue.
- Distributes bulk petroleum products and ammunition to AB forward arming and refueling points (FARPs); operates a class III/V transload site in its BSA; and is able to refuel aircraft using hot tactical aircraft refueling systems (HTARS) with heavy expanded mobility tactical truck (HEMTT) tankers.
- Refuels brigade aircraft in the rear area using 5,000-gallon tankers.

(*c*) The GMC's mission is to provide support as far forward as possible to rapidly return combat systems to the battle. It provides unit maintenance for all DASB nonair items and DS for AB/DASB nonair items, including automotive, engineer, utility, power-generation, communications-electronics (CE) equipment, and small arms. The company organization consists of a company HQ, battalion maintenance platoon, direct support maintenance (DSM) platoon, and supply platoon. The company—

- Provides DSM to supported units, including repairing small arms, communications, engineer, power-generation, automotive, and utility equipment.
- Provides limited recovery assistance to supported units when required.
- Provides technical assistance to supported units that perform unit-level maintenance within the brigade.
- Operates a collocated ASL for ground and air class IX to support the AB PLL.
- Provides reparable exchange (RX) and line replaceable units (LRUs) for selected common hardware and low-cost repair parts.
- Performs consolidated unit maintenance for all DASB units.

(*d*) The AMC provides aviation intermediate maintenance (AVIM) and AVUM to division aircraft (AB and division cavalry) at its base location in its aviation BSA. As in the GMC, the AMC's overriding goal is to provide support as far forward as possible to rapidly return aviation combat systems to the battle. The company also fields forward repair and recovery teams to units in the operating areas. The company organization consists of a company HQ, a production control section, a quality control section, and a maintenance test flight section. The company has platoons for helicopter systems repair and aircraft maintenance repair. The company performs the following on-aircraft systems maintenance:

- Structural and airframe repairs.
- Component repairs for reinstallation in aircraft or to support its RX program.
- Scheduled AVIM.
- RX service for supportable LRUs and components.

(2) The DASB commander is the AB commander's logistics operator. He advises the AB commander concerning supply, maintenance, field and health services, and implementing the logistics functions throughout the brigade. The DASB commander has OPCON over all units and elements within his BSA for CSS activity, movement, security, terrain management (positioning), and synchronization. Similar to the FSB SPO, the DASB SPO coordinates and provides technical supervision for the DASB's CSS mission, including direct support (DS) supply; DS ground maintenance; and AVIM and coordinating for transportation, CHS, and field services. He advises the DASB commander on support requirements versus capabilities. He analyzes the DASB's ability to support requirements, plans and monitors support operations, and makes necessary adjustments to ensure the battalion meets its support requirements. The SPO also coordinates with the DISCOM for reinforcing support as required.

e. Separate brigade-level support (FM 63-1). Separate brigades (armor, infantry, mechanized infantry, airborne, and air assault) are not assigned to divisions and are designed to be committed in combat as separate units. A separate brigade, such as an armored cavalry regiment (ACR), receives most of its DS CSS from an organic support battalion or squadron. The support battalion/squadron is organized with an HHC/headquarters and headquarters troop (HHT), a supply and transport (S&T) company/troop, maintenance company/troop, and medical company/troop (see figure 1-7). COSCOM elements provide general support (GS) and reinforcing DS to the support battalion/squadron.

(1) The HHC provides C^2 for the support battalion in the same manner as a DISCOM HHC. Unlike the divisional support battalions, it has a brigade materiel management center (BMMC). The BMMC provides the link for CSS between the separate brigade and the COSCOM. The BMMC's roles are similar to that of the FSB SPO and the DISCOM's division materiel management center (DMMC) combined.

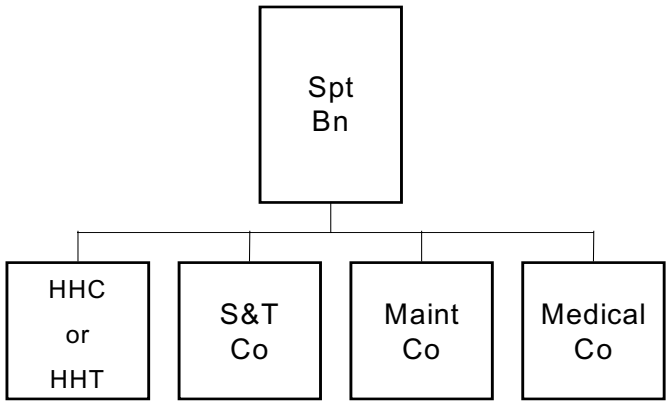


Figure 1-7. Support battalion, separate armored and mechanized infantry brigades.

(2) The S&T company performs a DS supply mission similar to an MSB's supply and service (S&S) company, plus it provides transportation support for supply distribution and moving the brigade's supply reserve. It stores supply classes I, II, III(p), III(b), IV, and VII. When augmented, the company provides mortuary affairs (MA); shower, laundry, and clothing repair (SLCR); and unclassified map supply.

(3) The maintenance company furnishes separate brigade elements with DSM, repair parts supply (ASL for common and missile class IX), and technical assistance. It is organized with the required system support teams (SSTs) to maintain assigned brigade equipment and systems except in the areas of ammunition, medical equipment, airdrop equipment, and avionics.

(4) The medical company provides CHS to the separate brigade at the same level as found in a division (level II) medical unit. The company has treatment and ambulance platoons, a medical supply section, a mental health team section, a preventive medicine (PM) section, an optometry section, and an area support section.

f. The brigade support area (BSA) using AOE doctrine. The BSA is that portion of the brigade rear the FSB, brigade rear CP, and other CS or CSS units occupy. When the maneuver battalion trains are echeloned, the battalion field trains are included in the BSA. The BSA is normally located between the DSA and the battalion areas. The BSA is normally located 25 to 30 KM behind the FLOT and 4 to 7 KM in diameter, assuming METT-TC. This distance provides protection against enemy indirect-fire weapons. Both division and corps units may locate within the BSA. The BSA, interfacing with the brigade S1, the S4, and the FSB, coordinates the brigade's personnel and logistic support. There is direct coordination because the brigade rear CP collocates with the FSB tactical operations center (TOC). Figure 1-8 depicts units normally found in the BSA.

1-5. FORCE XXI LOGISTICS CHANGES

a. Forward support battalion (FSB). The information in paragraph 1-5 is in accordance with (IAW) the US Army Combined Arms Support Command's (CASCOM's) final draft FMs 63-2-2, 63-20-2, 63-21-1, and 63-23-2, dated 30 Nov 99. The Force XXI multifunctional FSB (figure 1-9) continues to provide DS to the maneuver brigade. The FSB may operate highly dispersed, with some FSB elements close to the maneuver units and others near the brigade rear area. The FSB commander continues to be

the brigade commander's battle logistician and serves as the single CSS operator for support to the maneuver brigade. His battle staff monitors and manages sustainment operations through an array of digital

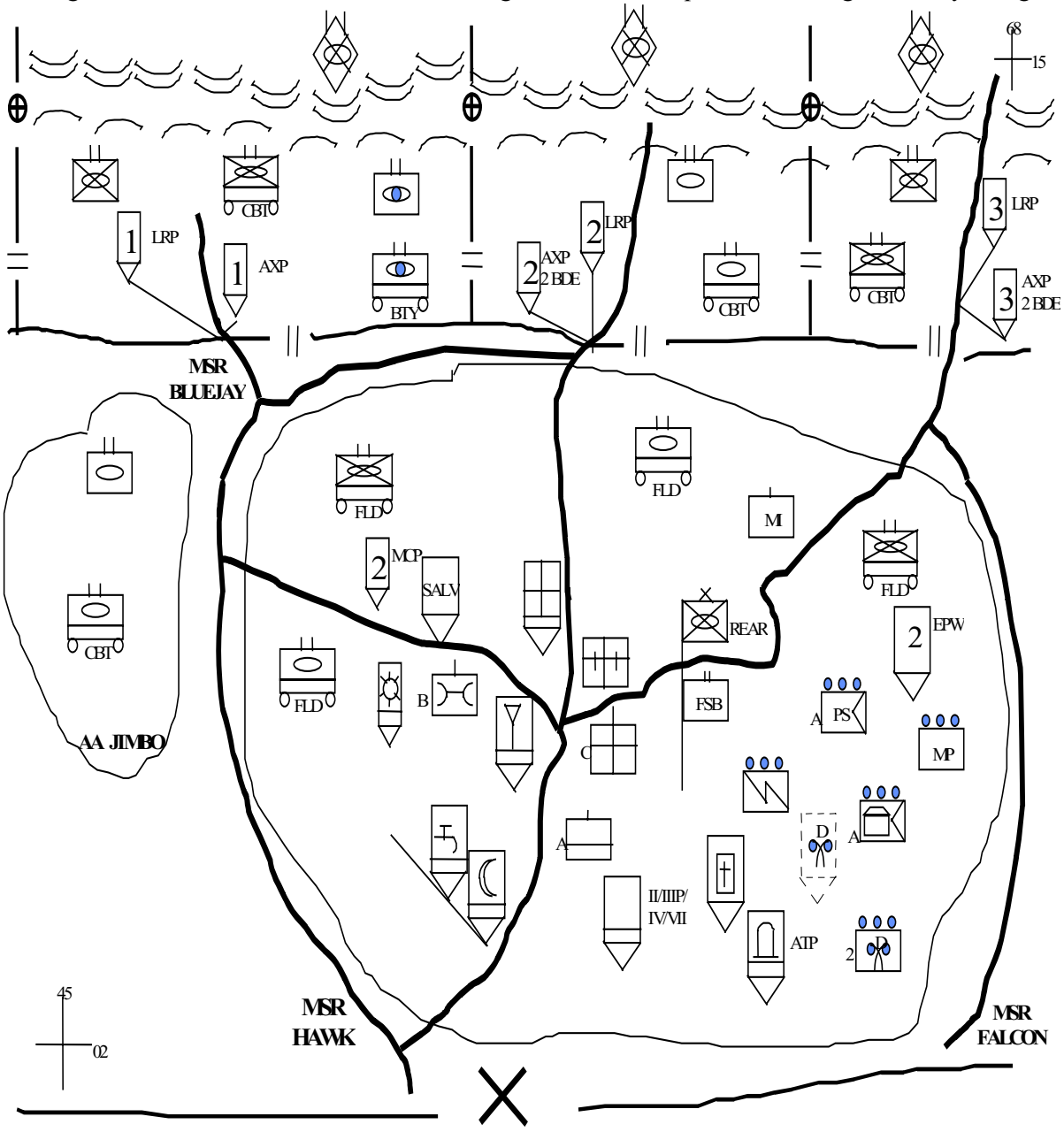


Figure 1-8. Sample BSA layout using AOE doctrine.

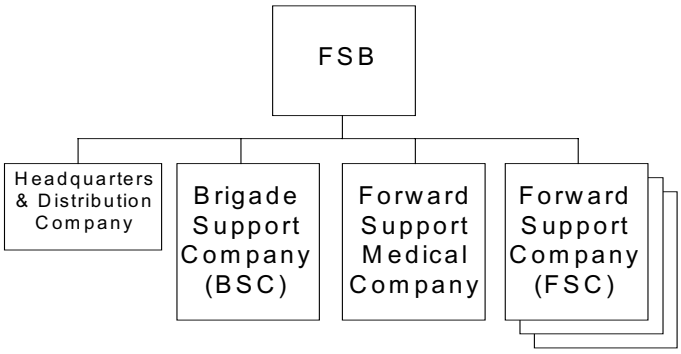


Figure 1-9. FSB using Force XXI doctrine.

information systems and other technological innovations. The FSB provides all logistics support and ties together the supplies, maintenance, and services for the maneuver brigade. The maneuver commander, however, while "unencumbered," must assist the FSB and its subordinate companies in synchronizing and maneuvering the inbound shipments from echelons above division (EAD). In the Force XXI brigade, maneuver and engineer unit CSS, *except for level I medical care*, will be consolidated into the new FSB design. Creating multifunctional CSS companies within the Force XXI FSB consolidates the CSS organizational elements currently embedded within the AOE maneuver battalion with the DS capability currently in the AOE FSB.

The FSB places a smaller footprint on the battlefield through dispersing and centralizing services and support. This FSB, with centralized CSS distribution management, frees the maneuver brigade commander from complex logistics support and task-organization decisions. This gives the maneuver commander greater flexibility and mobility. The FSB contains forward support companies (FSCs) (one per maneuver battalion), a base support company (BSC), a forward support medical company (FSMC), and a headquarters and distribution company (HDC). The FSC provides both organizational and DS multifunctional support directly to a maneuver battalion TF. The BSC provides organizational and DSM directly to the maneuver brigade, including the engineer battalion, brigade HHC, and brigade cavalry troop (BCT). It provides DSM only to the artillery battalion. The BSC also provides limited reinforcing/ backup support to the FSCs. The FSMC provides echelon I and II CHS, including sick call, advanced trauma management (ATM), limited laboratory and X-ray, dental treatment, combat stress control, preventive medicine (PM), patient holding, and medical evaluation within the FSB support area. Corps maintenance plugs may augment the FSB to provide a backup support capability forward.

Personnel and other soldier-related support functions, including manning; sustaining soldiers through religious, legal, and command information support; and funding through finance and resource management support are generally unaffected. Consolidating all classes of supply and maintenance within the FSCs and BSC exemplifies enhanced efficiency and effectiveness. Modular, multifunctional CSS companies and CSS C^2 in direct habitual support allow the maneuver commander to focus on his warfighting missions.

(1) The HDC provides the C^2 and administrative support for all organic and attached FSB units. It also provides food service and DS S&T to elements within the brigade rear and BCT, and limited backup and reinforcing support to the FSCs. The FSB HQ manages all classes of supply and service distribution except class VI and X supplies, classified maps, and classified communications security (COMSEC) devices. Because of its brigade rear location, elements from other divisional units that support the brigade may be attached to the FSB for administrative and logistics support. The HDC has the typical battalion battle staff organization structure—a command section, S1 section, consolidated S2/S3 section, S4 section, unit ministry team (UMT), S6 section (Force XXI addition), and a support operations battle staff section. It also has a company HQ and an S&T platoon. The support operations section coor-

dinates logistics support and manages distribution for the maneuver brigade. The FSB company HQ element provides food service support for the FSB (less the FSCs), HHC brigade, the BCT, and other attached FSB elements. The S&T platoon provides DS S&T support to the brigade rear and limited backup support to the FSC and now maintains the ASL for the brigade.

(*a*) The S&T platoon is the brigade's single source for all supply (less class VIII) and transportation operations. It provides class I, II, III(b), III(p), IV, V, VI, VII, and IX DS to the brigade. The S&T platoon also receives, stores (limited), and issues class II, III(p), IV, and IX; receives and issues class I and VI at the field ration issue point; and receives and issues class VII as required. It maintains the class II, III(p), IV, and IX ASL for the brigade. The distribution section provides transportation support to the brigade and can transport potable water to the FSCs. Under Force XXI doctrine, the platoon requires corps augmentation to provide water storage and distribution support. The petroleum section maintains ½ day of operational requirements for the maneuver brigade. The ammunition transfer point

(ATP) section supports the brigade with class V and operates the brigade ATP. The platoon HQ maintains the Force XXI Battle Command Brigade and Below ($FBCB^2$) system and Standard Army Management Information System (STAMIS) [Standard Army Retail Supply System—1 (SARSS-1) or Global Combat Support System—Army (GCSS-A)].

(*b*) The S&T platoon leader controls the brigade's DS distribution assets. His primary focus in a tactical scenario is conducting resupply pushes to the FSCs' distribution assets and receiving resupply from divisional or corps assets. The S&T platoon leader is responsible for the brigade's ASLs and supplies. Although the S&T platoon leader works for the HDC company commander, the battalion support operations section assigns his tasks. Within the S&T platoon, there is a warrant officer supply technician and two senior supply noncommissioned officers (NCOs).

(2) The BSC (figure 1-10) provides field maintenance to the brigade HHC, the BCT, the FSB FSMC, the HDC, and itself. It also provides limited backup maintenance to the FSCs and divisional units in the brigade area. The BSC provides DSM to the brigade's FA units and provides direct and habitual CSS to divisional engineer battalion assets, less class VIII and medical support. The BSC consists of an HQ platoon, base maintenance platoon, forward repair platoon, and an engineer support platoon.

(*a*) The base maintenance platoon provides field, organizational, and DSM to the HHC brigade, BCT, FSMC, BSC, and HDC and backup support to the engineer battalion. It also provides DS base shop commodity-specific maintenance to the entire maneuver brigade. On an area basis, it provides DSM to brigade units within the BSA and limited reinforcing and backup support to the FSCs. The maintenance control section (MCS) maintains the STAMIS management systems and is the focal point for all maintenance activity. The automotive maintenance section provides base shop field maintenance for wheeled and tracked vehicles. The ground support equipment (GSE) repair section provides base shop field maintenance for all power-generation and refrigeration equipment. The armament maintenance section provides the platoon's base shop line replaceable units (LRUs), armament, and small-arms repair capability. Maintenance advances such as multicapable maintainer, advanced diagnostic and prognostic maintenance, and introducing the Forward Repair System (FRS) enhance the platoon's capabilities.

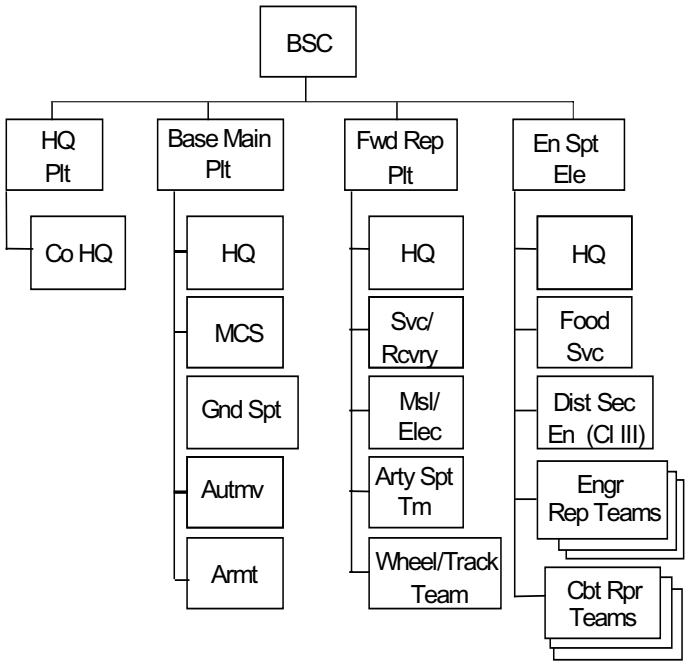


Figure 1-10. Brigade Support Company, FSB under Force XXI doctrine

1. Using the Unit-Level Logistics System—Ground (ULLS-G), the platoon provides all of The Army Maintenance Management System (TAMMS) functions, dispatching, and scheduled services for the HHC brigade, BCT, HDC, FSMC, and BSC. It performs system diagnostics and LRU, armament, and wheeled and tracked vehicle repairs. The FSB support operations section, in coordination with the supported maneuver brigade commander's intent, sets its priorities. The brigade's maintenance priorities are sent through the FSB's support operations section to the base maintenance platoon MCS. The platoon performs battle damage assessment and repair (BDAR) in accordance with (IAW) applicable technical manuals. When authorized, the maintenance platoon uses controlled exchange and/or cannibalization to expedite equipment repairs. METT-TC dictates the type and level of repairs. The platoon is normally located near the class IX section of the S&T platoon and maintenance platoon. Teams may maintain limited combat spares (PLL and shop stock) in order to facilitate repairs during contact maintenance support missions. The BSC base maintenance platoon also coordinates its backup and passback (those maintenance functions that were removed from the division and given to the corps) maintenance requirements with the FSB support operations section.

2. This maintenance platoon operates maintenance collection points (MCPs). The MCS coordinates recovery and evacuation for the FSC maintenance platoon. Corps maintenance plugs may be available for backup and component repair. The goal of base maintenance platoon operations is to return as many combat systems to the battle as possible.

(*b*) The forward repair platoon provides field maintenance on an area basis to brigade and divisional units that FSCs or the division support battalion (DSB) do not support. The service and recovery section provides welding services and limited recovery/lift support. The missile/electronic maintenance support team provides land combat missile system and communications-electronics (CE) maintenance support either forward, on site, or at the base shop as the MCS directs. The artillery support section provides onsite DS-level maintenance to the artillery battalion in support of the brigade. The wheel/track section can provide contact (onsite) support to the brigade HQ, the BCT, and engineer battalion and reinforcing support to the FSCs as directed. It also provides limited reinforcing and backup support to the FSCs.

(*c*) The engineer support element (ESE*)* is a multifunctional unit that includes a food service section, a distribution section, and maintenance sections organized to provide habitual support to divisional engineer battalions. The new ESE is as mobile as the unit it supports. It is modular enough to be broken into three multifunctional engineer support teams (ESTs), each being able to provide habitual CSS to an engineer company. These ESTs can colocate or be attached to maneuver FSCs that support the battalion TF the supported engineer company supports. The ESE can also consolidate all of the ESTs with the ESE HQ and form a separate engineer TF support area based on METT-TC. The food service section provides class I support to the engineer battalion using mobile kitchen trailers (MKTs) and kitchen company-level field feeding.

(*d*) The BSC depends on—

- The FSB HDC for religious support, personnel administration support, and food service support.
- The FSB FSMC for CHS and patient evacuation.
- The FSB support operations section to manage movement, maintenance, and distribution.
- Appropriate division or corps elements for legal, financial, personnel, and administrative support.
- Daily class IX resupply from echelons above brigade unless HQ directs otherwise.
- Corps water elements for water point purification and resupply.

- Corps elements for fuel and electrical equipment, CE passback teams, allied trade, and mortuary affairs (MA).

(3) The FSMC (figure 1-11) provides echelon I and II CHS on a DS basis to the supported maneuver brigade. It provides C^2 for organic elements and attached medical units. The FSMC depends on appropriate corps, division, brigade, and FSB elements for patient evacuation (including air ambulance); CHS operations planning and guidance; and legal, financial, personnel, and administrative services. It also depends on the FSB HDC for food service and religious support and on the BSC for maintenance. The FSMC is organized into a company HQ, a treatment platoon, an ambulance platoon, a preventive medicine (PM) section, and a mental health section. For more detailed information on the medical company's operations and functions, see FM 8-10-1, *The Medical Company Tactics, Techniques, and Procedures*.

(*a*) The *treatment platoon* operates the FSMC clearing station. It receives, triages, treats, and dispositions patients based on their medical conditions. This platoon provides professional services in minor surgery, internal medicine, general medicine, and general dentistry. In addition, it provides basic diagnostic laboratory and radiological services and patient holding support. It is further broken down into a treatment squad and an area support section. The area support section consists of an area support treatment squad, an area support squad, and a patient holding squad.

(*b*) The *ambulance platoon* performs ground evacuation and enroute patient care for supported units. The ambulance platoon consists of a platoon HQ, 5 ambulance squads (or 10 ambulance teams), 1 high-mobility multipurpose wheeled vehicle (HMMWV) used as a C^2 vehicle, 4 M997 HMMWV wheeled ambulances, and 6 M113 track ambulances.

(*c*) The *company*—

- Treats patients with disease and nonbattle injuries (DNBI), battle fatigue, and trauma injuries. It provides routine sick call, mass casualty triage, ATM, and surgical resuscitation/stabilization [when the forward surgical team (FST) from the corps is deployed/collocated with the FSMC] and prepares patients who are incapable of returning to duty (RTD) for further evacuation.
- Ground ambulance evacuates patients from BASs and designated patient collecting points.
- Performs emergency and sustaining dental care.
- Resupplies class VIII and maintains medical equipment for supported units.

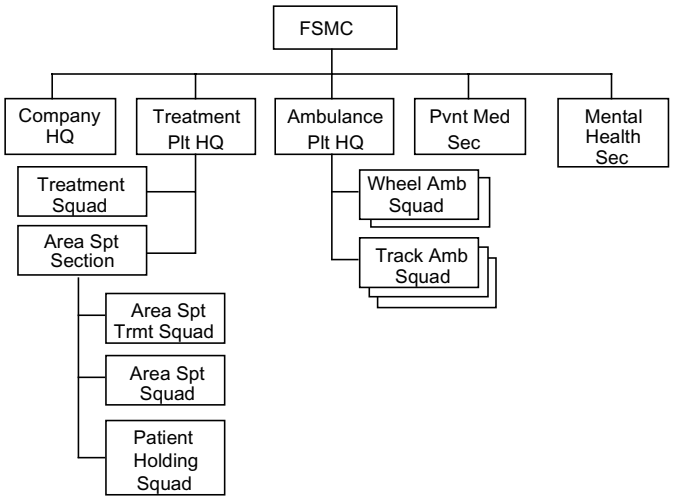


Figure 1-11. FSB FSMC using Force XXI doctrine.

- Provides medical laboratory and radiology services commensurate with echelon II/ division-level treatment.
- Conducts outpatient consultation services for patients referred from unit-level medical treatment facilities (MTFs).
- Holds up to 40 patients who are able to RTD within 72 hours.
- Provides limited reinforcement and augmentation to supported maneuver battalion medical platoons.
- Coordinates with the UMT for required religious support.
- Provides PM consultation and support.
- Monitors combat stress control, to include managing battle fatigue- and stress-related casualties.

(4) Forward support company (FSC) (figure 1-12).

(*a*) The FSC commander is the single CSS operator at the maneuver battalion TF level. The FSC is in DS of the maneuver TF as emplaced by the maneuver battalion commander. The FSB commander employs and oversees the FSC. The FSC provides field maintenance and all classes of supply, minus medical, to its supported battalion TF. The maneuver battalion TF provides echelon I medical support to its supporting FSC. The FSCs accomplish their core functions through centralizing support. Centralizing support provides the maneuver commander with greater mobility and increases efficiency and effectiveness in support and supply flow. Centralized support allows the FSB commander to cross-level between FSCs and weight the battle logistically, or surge, as required. Centralized support is enhanced when the division logistician employs available maturing technology. The FSC can command, control, and integrate attached units such as ESTs or corps teams.

(*b*) The FSC is a multifunctional unit that includes a company HQ, an S&T platoon, and a maintenance platoon organized to provide habitual support to a maneuver battalion. The company commander is the single CSS operator for conducting all CSS operations, less medical, in support of the battalion TF. This new FSC is as mobile as the unit it supports.

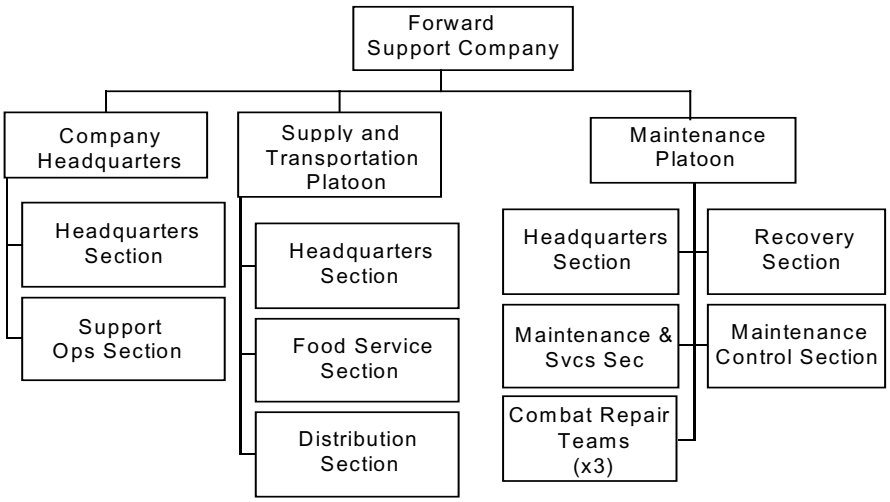


Figure 1-12. FSB FSC using Force XXI doctrine.

1. Within the company HQ, the support operations section coordinates and provides technical supervision for the FSC's CSS mission. This mission includes DS supply and field maintenance, and coordinating transportation and field services. The support operations section collocates with the maneuver battalion TF S1/S4 representatives. This physical location on the ground where the support operations tracked vehicle colocates with the maneuver battalion TF tracked vehicle is called the combat trains command post (CTCP). This CTCP is located in the FSC forward location, usually in the center of the FSC forward, for force protection and to C^2 the assets placed there. The FSC support operations officer (SPO) is the CSS planner and coordinator. His duties include—

- Continuous battle tracking.
- Ensuring accurate, timely tactical reports are sent to the FSC TOC.
- Assuming company command as required.
- Assisting in preparing the company OPORD for the commander and the support concept for the battalion TF OPORD.
- Coordinating tactical and logistics information with higher, adjacent, and supported units.
- As required, assists the commander in issuing orders to the company, HQ, and attachments.
- Conducts additional missions as required, including serving as officer in charge for the quartering party, company movement officer, or company training officer.
- Helps the commander prepare for follow-on missions.

2. The S&T platoon provides S&T support to the maneuver battalion TF. The S&T platoon provides class I, including food service support; II; III(p); III(b); IV; V; VI; and VII to the maneuver battalion TF. The distribution section can conduct simultaneous class III(b) and V retail support to the maneuver companies, maneuver HHC, and the FSC. The food service section provides food service support for its own company and the maneuver battalion TF. It can prepare and deliver hot meals to the maneuver company area. The S&T platoon operates $FBCB^2$ and the STAMIS (SARSS-1 or GCSS-A).

3. The maintenance platoon provides organizational and DS-level field maintenance to itself and its supported maneuver battalion TF. It consists of an HQ section, a maintenance control section (MCS), recovery section, maintenance and service section, and combat repair teams (CRTs). The maintenance platoon provides C^2 and reinforcing maintenance to the CRTs. The CRTs provide field maintenance and BDAR to the maneuver companies. As a maneuver commander task organizes the force, all or part of a CRT goes with the company teams to maintain habitual support. The platoon maintains a limited quantity of combat spares (PLL and shop stock) in the MCS. The FSC operates the UMCP in what is now referred to as the task force support area (TFSA) or combat trains command post (CTCP) area, depending on METT-TC. Maintenance advances, such as the multicapable mechanic; advances in diagnostic and prognostic maintenance capabilities; and introducing the Forward Repair System (FRS) enhance the FSC maintenance platoon's capabilities.

The maintenance platoon, using the ULLS-G, performs all TAMMS functions, dispatching, and scheduled service operations for the maneuver battalion TF and FSC. The MCO, in coordination with the maneuver battalion TF chain of command, determines the FSC maintenance platoon's priorities. The maintenance platoon operates and controls the TF UMCP. The platoon performs on-system maintenance. It "replaces forward" by using diagnostics/prognostics to diagnose major component failure and then replaces that component. These components can include line replaceable units (LRUs), major assemblies, or other subcomponents. The extent of repair depends on METT-TC. If time, tools, test equipment, and repair parts are available, repairs are done on site. Mechanics perform BDAR IAW applicable technical manuals. As directed, mechanics perform controlled exchange to expedite repairs. The battalion TF

commander is the approval authority for controlled exchange actions. The FSC maintenance platoon coordinates backup and passback maintenance requirements with the FSC support operations section.

During combat, the maintenance platoon's first priority is to reinforce the CRT's mission. The platoon HQ coordinates with the FSC commander and FSC SPO to integrate and support battalion TF operations. The HQ section maintains situational awareness of battalion TF operations. It also maintains FM communications with both the battalion TF command and logistics nets to link to FBCB^2 devices. This ensures the maintenance platoon maintains asset visibility and tactical as well as CSS situational awareness. Using the FBCB^2 provides the critical information the FSB requires to anticipate and meet the battalion TF maintenance requirements. The FSC maintenance platoon also coordinates backup and passback maintenance requirements through the FSC SPO (lieutenant position) to the FSB.

On the Force XXI battlefield, mechanized and armored maneuver battalions remain responsible for operator- and crew-level maintenance. Operators/crews may perform BDAR using onboard BDAR kits and will use self-recovery techniques to the greatest extent possible.

The FSC SPO coordinates the maintenance priorities with the battalion S4 and MCS. The maintenance control officer (MCO) task organizes the maintenance platoon based on his analysis of current and anticipated mission requirements. He is concerned with providing the appropriate support at the UMCP and forward. The MCS controls the UMCP workload. It is task organized with the MCS, the maintenance and service section, and the recovery section. Task organizing the UMCP's maintenance operation is modified based on the MCO's analysis of the maintenance requirements, tactical situation, and METT-TC. Anything that is not repaired in the UMCP or that UMCP assets do not tow is recovered to the BSA or evacuated to echelons above division (EAD).

The MCS is the management center for all maintenance actions. The FSC's ULLS-G boxes are collocated in the MCS. The MCO uses ULLS-G to produce Army Materiel Status System (AMSS) readiness reports. The AMSS replaces manual readiness reporting on the front-side of DA Form 2406. The maneuver commander is responsible for the operator/crew maintenance functions in his unit. The MCO is responsible for preparing the readiness report for the maneuver commander's signature. The FSC depends on—

- The FSB HDC for personnel administration support.
- The FSB HDC or TF for religious support.
- The FSB support operations section for situational awareness, integrated materiel management, movement, maintenance, and distribution management direction.
- The FSB and/or TF S2 for intelligence.
- The TF S1/S4 for the common tactical picture and supported unit/echelon CSS situational awareness.
- Appropriate division or corps elements for legal, CHS, financial, personnel, and administrative support.
- The BSC or echelons above brigade for resupply assets to maintain the required quantity of materiel to push forward to the supported battalion. Fuel requires delivery twice a day; all other supplies are daily or as METT-TC requires.
- The FSMC FSB for CHS and patient evacuation. The maneuver battalion TF provides echelon I medical support to its supporting FSC.
- Corps MA teams for MA support.
- The BSC (through corps augmentation) to distribute water to the FSC.
- Corps CE assets to augment CE maintenance.

b. Division aviation support battalion (DASB). The multifunctional DASB's mission and organization has largely remained unchanged. It continues to provide DS to the AB and the division cavalry squadron. The DASB may function in a highly dispersed manner, with some of its elements close to the attack units and others near the brigade rear area. The DASB commander is the AB commander's single CSS operator. His battle staff manages and monitors sustainment through an array of digital information systems and other technological innovations. The DASB provides, or coordinates for, all logistics support and ties together supplies and services for the AB.

The maneuver commander, however "unencumbered," must synchronize the DASB's, its subordinate companies, and attached elements' maneuvering with inbound shipments from EAD and brigade. Using assured communications, digitizing all CSS echelons, digitizing battlefield distribution platforms, and modularizing organization structures give the DASB commander and brigade S4 the information dominance needed to tailor the CSS package. Through real-time situational awareness, the brigade battle staff can make up-to-the-minute adjustments in its support requirements. The widespread use of enablers on the battlefield allows the DASB battle staff to anticipate changes in requirements and rapidly redirect assets or, if necessary, have a surge capability to provide seamless CSS to all levels of the AB.

The DASB supports the AB and the division cavalry squadron by providing or coordinating all classes of supply and maintenance. The DASB can function dispersed to support the division cavalry squadron or AB when either is operating forward. The DASB may attach aviation and ground maintenance teams and fueling assets forward to augment the FSB that then provides area support to the division cavalry squadron. The DASB does not have any CHS capabilities. It depends on the division support battalion (DSB) area support medical company (ASMC) or the FSB FSMC for medical support. Based on METT-TC, either the DSB or FSB medical companies provide CHS to the DASB, AB, and division cavalry squadron. The DASB (figure 1-13) contains a headquarters and supply company (HSC), a ground maintenance company (GMC), and an aviation maintenance company (AMC). The DASB maintains 1 day of operational fuel requirements for the AB, division cavalry squadron, and itself.

(1) The HSC consists of a battalion HQ and a supply platoon. The battalion HQ provides C^2 and administrative support for all organic and attached DASB units. It plans, directs, and supervises support for the AB and division cavalry squadron. The supply platoon receives, issues, and stores limited class II, III(p), IV, and IX (common and air) items in support of the AB and division cavalry squadron. It also receives and issues classes I and VI at the field ration issue point, and receives and issues class VII as required. The supply platoon maintains the STAMIS (SARSS-1 or GCSS-A). The class III(b)/V platoon provides class III(b) and class V support to its customers. It also operates a division rear aircraft refuel

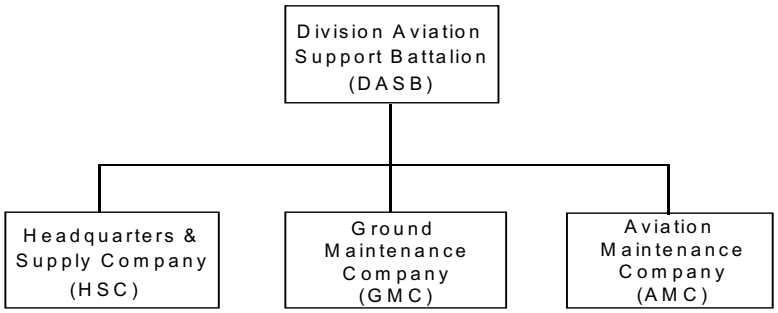


Figure 1-13. DASB using Force XXI doctrine.

point for division and medical evacuation aircraft. The DASB maintains 1 day of operational fuel requirements for the AB, division cavalry squadron, and DASB. The HSC also provides food service support for to the DASB's organic and attached units. Corps units provide MA support and water. The FSB and DSB medical companies provide echelon II medical care based on METT-TC.

(2) The GMC consists of a company HQ, a battalion maintenance platoon, and a DSM platoon. The GMC provides unit maintenance for all DASB nonair items and DSM for all AB, DASB, and division cavalry squadron nonair items, including track, turret, missile, automotive, CE, engineer, utility, power-generation, and small-arms.

(3) The AMC provides aviation intermediate maintenance (AVIM) to the division AB, division cavalry squadron, and corps medical aircraft operating in the division area. The AVIM company provides intermediate-level avionics maintenance support and aircraft airframe, powerplant, armament, and component repair. The AMC's mobile MSTs perform AVIM forward and provide forward repair/recovery teams that perform onsite technical assistance and can also provide backup aircraft recovery, retrograde repairable aviation equipment by ground, and coordinate air recovery backup and rigging to recover supported aircraft. The AMC provides maintenance test flight evaluators to supported aviation unit maintenance (AVUM) units. It will form a collection and classification (C&C) point for aircraft-peculiar materiel and provide fueling and defueling service for supported aircraft while in the company. This unit performs unit maintenance on all organic equipment except CE and COMSEC.

c. Force XXI brigade CSS battlefield layout. As discussed earlier in this chapter, the AOE combat and field trains concept changes under Force XXI doctrine. The FSCs locate, based on METT-TC, 4 to 12 KM behind their supported maneuver battalion TF in the task force support area (TFSA). The maneuver unit company supply sergeants are located in the TFSA. They assemble their LOGPACs and then move their vehicles forward to the company LRP. The 1SG or his representative meets the LOGPAC and guides it to the company resupply point.

The FSCs colocate a support operations cell with the maneuver battalion TF S1/S4 at the combat trains command post (CTCP) located within the FSC forward location, 1 to 4 KM behind the battalion TF. Based on METT-TC, the FSC has the flexibility to locate the UMCP, recovery, class III(b) and V emergency resupply, and other TFSA assets in this FSC forward location. The maneuver battalion will normally locate its BAS within the FSC forward location for force-protection and proximity considerations. FSC combat repair teams (CRTs) are placed forward with each maneuver company under the maneuver 1SG's OPCON. The maneuver 1SG also has OPCON of the combat medical team (CMT) with track ambulance capability. Track ambulances evacuate casualties to the casualty collection point (CCP), consolidate them, and further evacuate them to an ambulance exchange point (AXP). Figures 1-14 and 1-15 show a doctrinal template on how to employ the FSC to support the maneuver battalion TF.

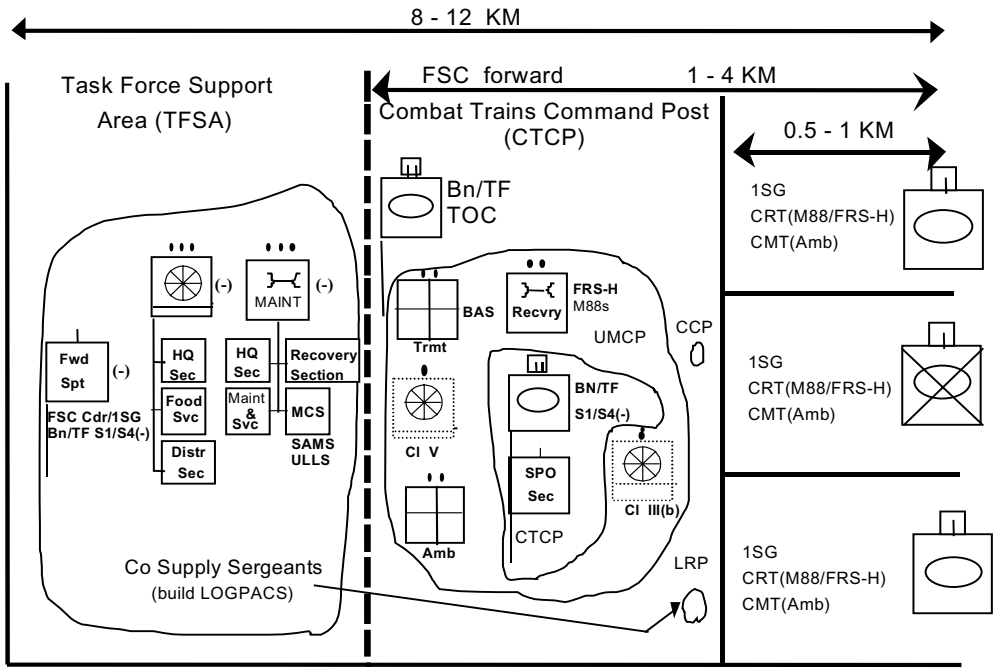


Figure 1-14. FSC doctrinal template using Force XXI doctrine.

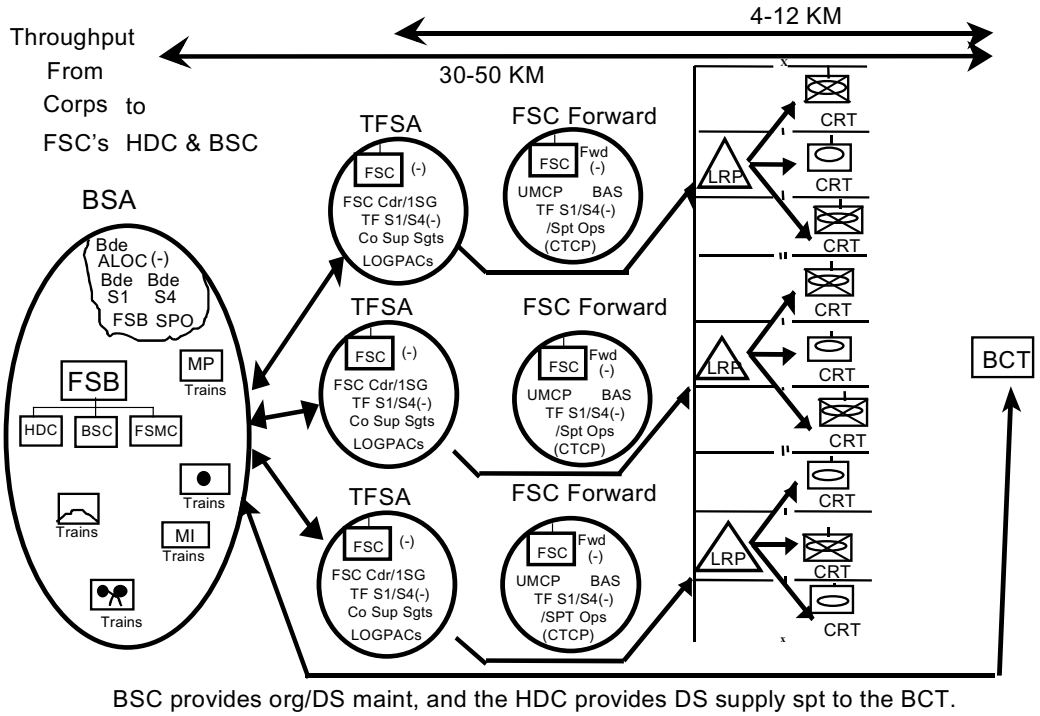


Figure 1-15. Force XXI, FSB area of responsibility (AOR) doctrinal template.

CHAPTER 8

MANNING THE FORCE

8-1. INTRODUCTION

The first challenge of manning is deploying soldiers to the AO and providing the necessary services to sustain those soldiers. Manning the force encompasses personnel readiness management, personnel accounting and strength reporting (PASR), replacement management, and casualty operations management. This chapter will highlight the manning functions and discuss how these systems maintain the unit's strength and assist the commander during the command estimate process.

8-2. MANNING

Doctrinal references are FM 12-6, *Personnel Doctrine*, and FM 100-5, *Operations.* The systems of personnel readiness management, PASR, replacement management, and casualty operations management meet the Army personnel requirements from mobilization and deployment through redeployment and demobilization. The Army personnel readiness system provides a flexible tool for selecting and assigning soldiers with the correct skills to meet operational requirements. The replacement management system moves soldiers and civilians through CONUS replacement centers (CRCs) to units in the theater of operations. The replacement system responds to personnel shortages the personnel readiness management system identifies. Casualty operations management helps the personnel readiness manager verify losses incurred during combat or military operations other than war (MOOTW).

The personnel information management system interconnects the manning subfunctions. It manually and electronically collects, validates, processes, and stores critical information about soldiers, Army civilians, and units into a database. Personnel managers use the personnel information database to assess unit readiness and support personnel allocation decisions. Casualty managers use it to access basic personnel information and casualty information verification, and replacement managers use it to track replacement flow through the replacement system to the ultimate unit of assignment. The commander receives a database information analysis to support his decisionmaking process.

a. Personnel readiness management. The personnel readiness management system assigns soldiers and Army civilians to subordinate units based on documented manpower requirements or authorizations and the commander's priorities. Personnel readiness describes a state of wartime preparedness. Personnel readiness management is a process for achieving and maintaining that state. The process involves analyzing personnel strength data to determine current combat capabilities and project future requirements, and it ends with a personnel readiness assessment and allocation decisions.

The personnel readiness management process requires strength information from two sources: summarized strength reports from the command chain and detailed personnel information from the units' personnel database. The command and control strength reporting system (C^2SRS) contains summarized reports that allow the personnel readiness manager to analyze unit strength. These reports consist of the battle roster, personnel summary report, personnel requirements report (PRR), TF summary, and personnel status report (PSR). The PASR system accounts for soldiers at unit level, reports duty status changes, and updates command databases at all levels to reflect those changes. This information must reflect real-time unit alignments to account for TF organizations. Unit strength must include both assigned and present for duty (PDY) strength.

Readiness managers continuously collect, correlate, and analyze strength information. This information includes the latest known strength, projected and current casualties, projected replacement and those recently received, and soldiers and civilians RTD from hospitals or as internees or stragglers. Based on the theater commander's priorities, readiness managers allocate replacements to corps and EAC units.

In peacetime, the US Total Army Personnel Command (USTA PERSCOM) automatically fills all projected losses based on normal personnel rotation. Major Army commands (MACOMs) only submit requisitions for unprogrammed losses and highly specialized or skilled personnel.

At OPLAN execution, the system must deliver filler and casualty replacements to the theater to bring units to combat-required strength and ensure replacements are available as losses occur. USTA PERSCOM maintains preestablished theater (shelf) requisitions for this purpose. The Army component commander must prepare to transition to the normal requisitioning system based on actual losses experienced between 90 and 120 days into the operation.

Reconstitution is a process commanders use to restore units to a desired state of combat effectiveness commensurate with mission requirements and available resources. Personnel readiness managers and replacement managers are critical players in the reconstitution process. Commanders have two reconstitution options: reorganization and regeneration. The commander executes his option based on the current and anticipated situation, his priorities, and the resources and time available.

(1) Reorganization is the immediate shifting of resources within a degraded unit to increase its combat effectiveness. Tactical commanders at all levels conduct reorganization. The commander implements it during or immediately after contact with the enemy to meet near-term needs. It may include cross-leveling equipment and personnel, matching operational weapon systems with crews, or forming composite units (joining two or more attrited units forming a single mission-capable unit). The goal is to improve the unit's capability until more extensive efforts can take place.

(2) Regeneration is rebuilding a unit. It requires large-scale personnel, equipment, and supply replacement. Regeneration requires approval and assistance from higher echelons, usually the commander two levels up. Regeneration involves reestablishing or replacing the chain of command, mission-essential training, external assessments, and both operational and CSS assets to be effective. Regeneration's intensive nature will cause a unit to move to a designated area protected from enemy destruction and harassment where it can return to a specified level of combat effectiveness.

b. PASR. The mission of the Army's PASR system (see figure 8-1) is to account for soldiers and Army civilians, report other strength-related information, and update command databases at all levels. Information gained through PASR provides readiness managers with the details necessary to analyze personnel strength as a component of combat power.

(1) Personnel accounting is the by-name reporting system used to record when soldiers and Army civilians arrive and depart units and when their duty status changes (e.g., grade changes and from PDY to hospitalized).

(2) Strength reporting is a numerical product of the accounting process. The PASR process starts with a strength-related transaction submitted at battalion and separate unit level and ends with a database update to all echelons of command to the total Army personnel database (TAPDB). Strength reports are available from battalion to division level through the C^2SRS. These include—

(*a*) Battle rosters that contain a personnel file extract on every soldier in the unit. It can reflect task organization by company, platoon, squad, and crew/gun section.

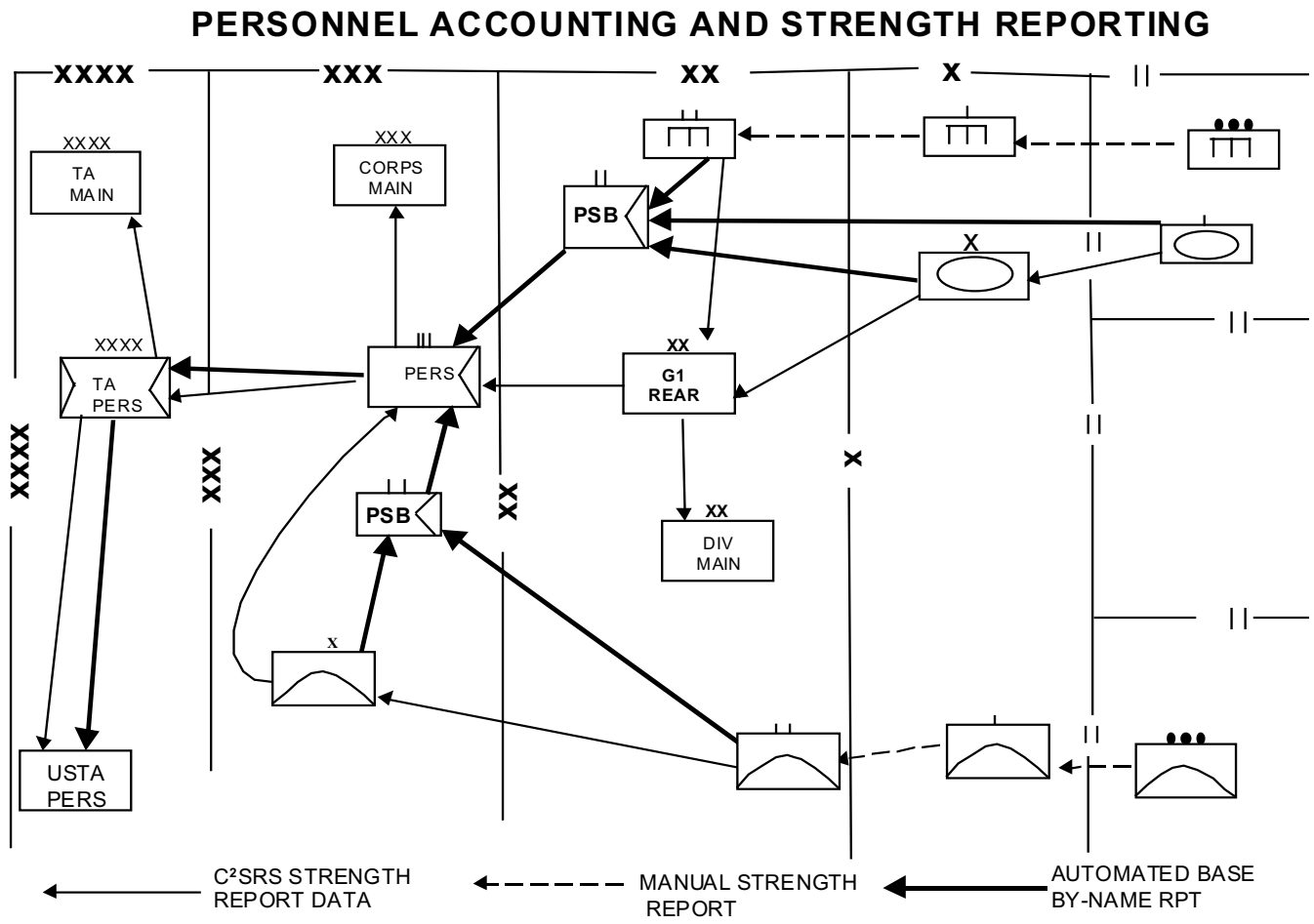


Figure 8-1.

(*b*) A personnel summary that displays units' personnel strength in aggregate numbers as of a given time. It reports strength by personnel category (officer, warrant officer, enlisted, and civilian), gains, losses, and duty status changes.

(*c*) PRRs that display a unit's requirements by rank and military occupational specialty (MOS). Personnel managers use this report to requisition and allocate replacement personnel.

(*d*) In the manual mode, the personnel summary and PRR may be combined to form a personnel status report (PSR). It satisfies the demand for immediate information when automated systems are not available.

c. Casualty operations management. The purpose of casualty operations management system is to record, report, verify, and process information from unit level to Headquarters, Department of the Army (HQDA); notify appropriate individuals; and provide assistance to the next of kin. Casualty information from a number of sources must be collected, collated, and analyzed to determine the appropriate action and ultimate case disposition. Casualty operations management includes casualty reporting, casualty notification, casualty assistance to the next of kin, line-of-duty determination, reporting status of remains, and casualty mail operations.

Personnel managers closely monitor casualty reporting. They analyze and share casualty information with medical, logistics, provost marshal, and chaplain personnel to ensure 100 percent accuracy of all casualty reports. The standard for casualty reports to USTA PERSCOM is 24 hours from time of injury

or death. The requirement to account for all casualties, reportable or not, demands accurate personnel strength reconciliation. Refer to casualty operations shown in figure 8-2.

d. Replacement management. The replacement management system's mission is to move personnel from designated points of origin to ultimate destinations and to coordinate individual training at each replacement center/company/section as METT-TC dictates (see figure 8-3). Replacement management is physically receiving, accounting, processing, supporting, equipping, training, and delivering military and civilian personnel. This includes replacements and RTD soldiers and civilians. While the standard is individual replacements, the replacement operations system must be prepared to provide squads, crews, or teams and to coordinate for their transportation to weapon system linkup and training locations. Personnel readiness managers (PRMs) coordinate with logistics personnel to link up weapon systems with squads, crews, and teams. PRMs also coordinate with G3/S3 personnel for replacement training. The corps replacement unit maintains the squad, crew, or team's integrity and accountability until it arrives at the division replacement section. PRMs also help MPs determine the status of stragglers and assist their eventual disposition through legal or replacement channels.

To provide individuals as theater filler and replacement personnel, USTA PERSCOM may reassign soldiers from the transients, trainees, holdees, and students (TTHS) account. Additionally, USTA PERSCOM levies the MACOMs for soldiers and civilians IAW HQDA guidance and procedures in the Army Mobilization Operations Planning and Execution System (AMOPES).

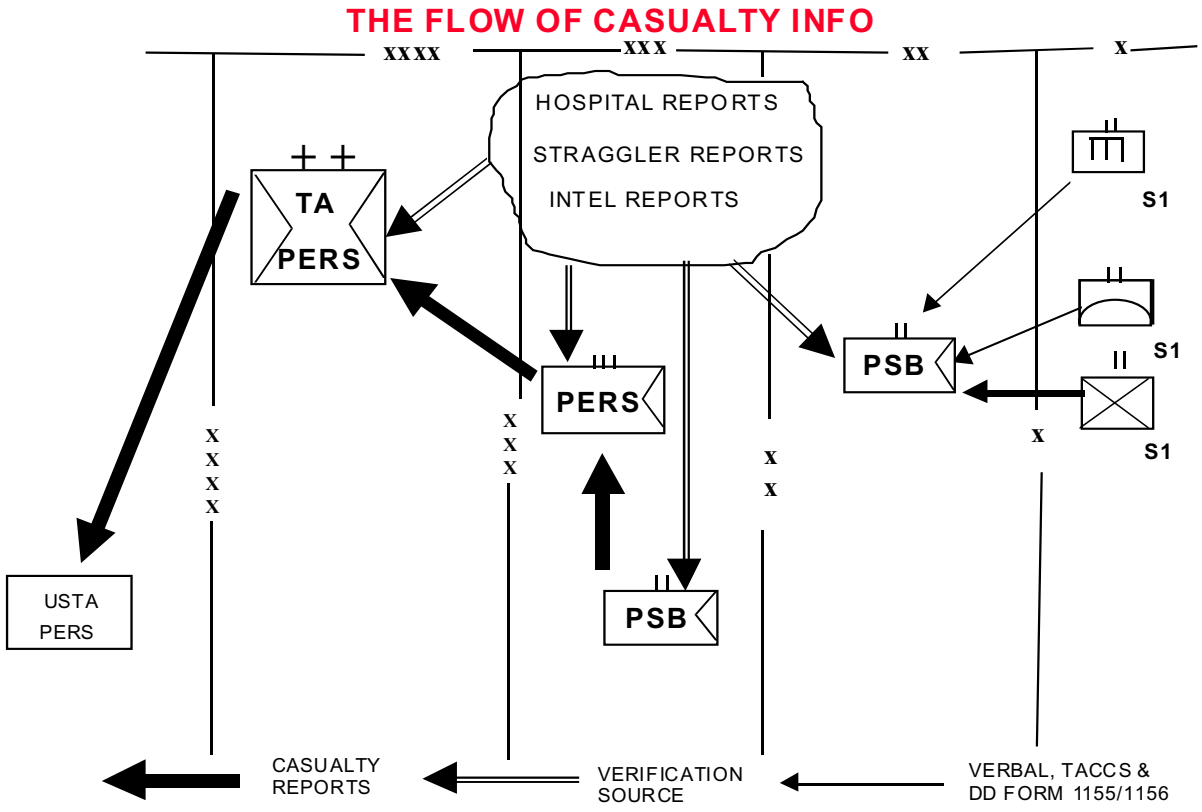


Figure 8-2.

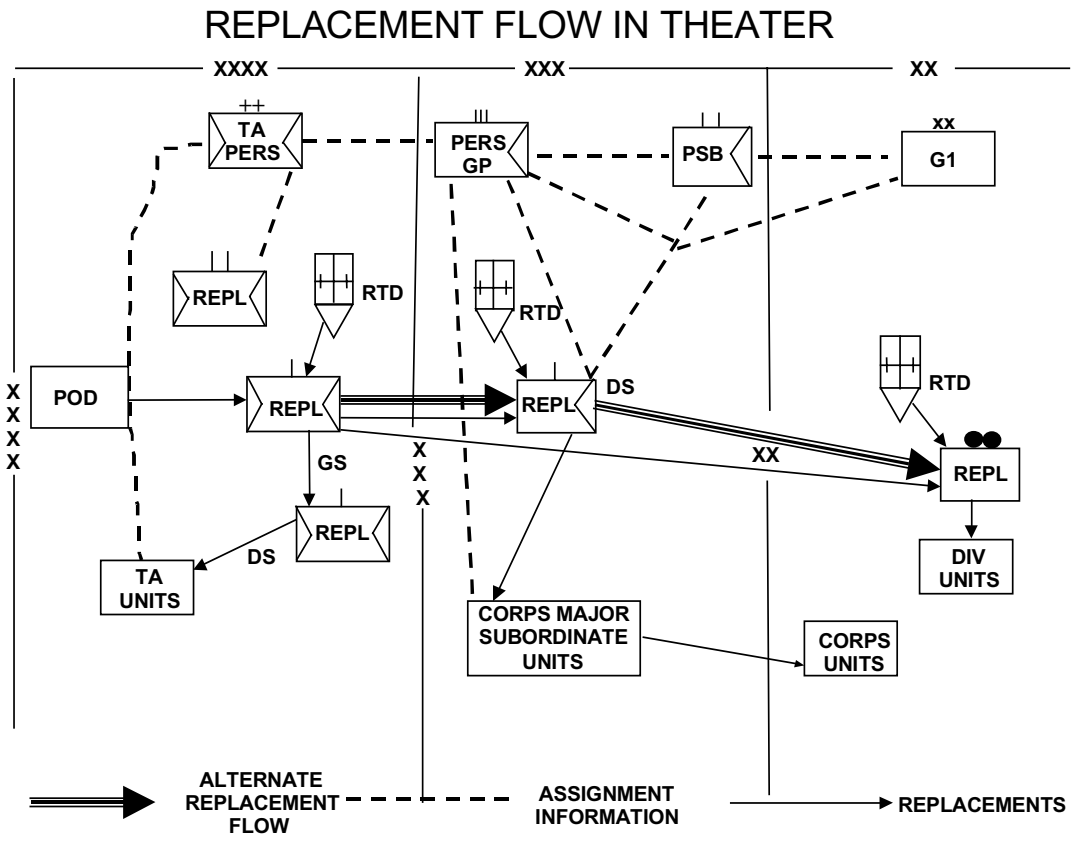


Figure 8-3.

CONUS replacement centers (CRCs) process replacements IAW the soldier readiness program (SRP) or civilian equivalent standards the Deputy Chief of Staff for Personnel (DCSPER) sets. The CRC verifies individual deployment readiness, issues organizational clothing and individual equipment (OCIE), conducts required area and mission training, and moves the replacements to the aerial port of embarkation (APOE). Each replacement carries a complete deployment packet upon departure.

Outside CONUS (OCONUS) commanders may be required to provide replacements to a theater. A replacement unit in that command would perform the same function as a CONUS replacement battalion supporting a CRC.

Commanders at all levels require timely information to effectively manage replacements. The CRC provides replacement information to USTA PERSCOM via the Replacement Operations Automated Management System (ROAMS). Based on the projected personnel flow through the CRC, USTA PERSCOM coordinates strategic airlift IAW the Joint Operation Planning and Execution System (JOPES).

USTA PERSCOM gives the Theater Army Replacement Operations Directorate an advance arrival report 72 hours before projected arrival at the APOD. This report enables the replacement directorate to prepare the distribution plan. The report is organized by personnel category (officer, warrant officer, enlisted, and civilian). The GS replacement battalion, collocated at the APOD, coordinates transportation with the theater army movement control agency (TAMCA). Theater GS replacement companies alert corps DS replacement companies and division G1 replacement sections of projected arrivals. The corps DS replacement company coordinates with a movement control team (MCT) for transportation to corps units. Normally, replacements flow directly from the theater-level GS replacement battalion to divisions.

The division replacement team coordinates with the G4 and DISCOM transportation officer to move replacements to the brigade support area (BSA). The goal for moving replacements from the theater replacement company to corps units and from the division replacement section to the BSA is 24 hours. The brigade S1 assigns replacements to battalions. The battalion S1 further assigns replacements to company level and updates the PASR system.

CHAPTER 9

SUSTAINING SOLDIERS AND THEIR SYSTEMS

Section I. Personnel Service Support

9-1. INTRODUCTION

Sustaining soldiers and their systems includes personnel service support (PSS), health services, field services, quality of life, and general supply support. This chapter will describe the activities belonging to those logistics functions and their impact on the health, morale, and welfare of Army soldiers, civilians, and families.

9-2. PERSONNEL SERVICE SUPPORT

PSS is defined in FM 100-5, *Operations*, chapter 12, as managing and executing six personnel-related functions: personnel services, resource management, finance services, religious support, command information services, and legal service support. PSS provides essential services to sustain the force's human dimension. These services affect the force from the human perspective—soldiers are reassured by concerned, positive leadership and a personnel system that ensures care for them while they perform their missions. These functions are usually within the tactical unit G1/S1's purview (coordinating staff responsibility, not execution), although at different echelons, different staff officers and unit commanders may represent them. The six PSS functions are described below.

a. Personnel services. Personnel services are the products of the personnel system that provide essential services to sustain the highest possible level of readiness and essential services to soldiers, civilians, and family members to sustain the force's human dimension. The personnel service function's challenge is to provide the postal; morale, welfare, and recreation (MWR); and essential services to sustain soldiers and civilians. FM 12-6, *Personnel Doctrine,* outlines the personnel system and how it fits into the Army today. Personnel functions form an integrated support system that sustains the fighting force and contributes to both national will and the soldier's will to fight.

(1) The *postal operations management system* operates a network to process mail and provide postal services within the AO. Processing mail involves receiving, separating, sorting, dispatching, and redirecting ordinary and accountable mail. Postal services involve selling stamps; cashing and selling money orders; providing registered, insured, and certified mail services; and handling casualty and contaminated mail. Priorities for processing mail on the battlefield are (in order): inbound official mail (accountable, then ordinary); inbound personal and "any soldier" mail (first class); outbound official mail (accountable, then ordinary); outbound first class mail, including first class casualty mail redirect; and other mail (inbound and outbound); including "any soldier" mail (other than first class).

(2) The *MWR and community support systems* enable commanders to provide soldiers and Army civilians with recreational activities and goods and services not available through appropriated funds. For contingency operations, the MWR network provides services to the theater of operations. These are in the form of unit recreation and sports programs, mobile rest areas for brigade/division-sized units, and fixed rest areas at theater/corps levels. American Red Cross representatives are available at division and higher levels to handle family emergencies. The Army and Air Force Exchange Service (AAFES) will provide mobile field exchange service in forward corps and division areas whenever the tactical situation allows. AAFES also establishes warehousing and retail operations in secure areas within the theater and corps. Contracted vendors provide goods and services wherever and whenever feasible.

(3) The *essential personnel services* are awards and decorations, noncommissioned officer (NCO) and officer evaluations, promotions and reductions, transfers and discharges, identification documents, leaves and passes, line-of-duty investigations, officer procurement, retention, recruiting, and reclassification.

b. Resource management operations (doctrinal reference: FM 14-100, *Financial Management Operations*). Future conflicts may vary greatly in size, intensity, and duration; therefore, resource management operations must be flexible in responding to support requirements. The resource management organization in a theater of operations should be tailored to meet rapidly changing requirements. The theater commander and HQDA will collectively tailor the resource management organization. The initial assumption in providing resource management support for an emergency operation or conflict should always be that maximum financial controls, accounting, and reporting will be required. Resource managers must prepare to deploy to the theater of operations and to provide support from the onset of hostilities.

(1) An operation or conflict's intensity of may require that there be only minimal financial controls, accounting, or reporting. HQDA will notify MACOMs and field operating agencies when any changes occur. FM 14-100 summarizes budgeting and funding actions that may occur in emergency situations. Such actions will depend on the emergency or conflict's size, intensity, and duration.

(2) Two major scenarios are envisioned. The first involves committing US forces to a theater where the United States has no forward-deployed forces or a support base. This scenario requires resource managers and their staffs to deploy to the theater of operations. The second scenario involves a conflict occurring in an area where the United States maintains a forward presence and a large support base. FM 14-100 also outlines the actions involved in transferring finance and accounting functions from the theater of operations under this scenario.

c. Finance operations (doctrinal reference: FM 14-100, *Financial Management Operations*). The US Army may fight in a variety of places and situations, ranging from developed countries where it may oppose highly mechanized forces to remote parts of the world where it may oppose light, irregular units. Regardless of the situation, the battlefield's fluid nature requires an equally flexible finance support capability. The finance mission during operations is to fund Army, joint, and multinational forces by providing timely procurement and contracting support, banking services, and currency financial advice. Finance units also protect and defend themselves, continue to sustain the force, and maintain battle freedom for combat units to engage the enemy. Finance units support maneuver, logistics, and intelligence operations; soldiers and their families; US Government civilians and other properly credentialed civilians [e.g., members of the press and United Service Organization (USO), Red Cross, and contract personnel]; and local national employees during joint and multinational operations.

As directed, finance units will also support airmen, sailors, marines, and service members of other nations. In addition, finance units can support other US Government agencies. Finance support covers two areas—support provided to organizations and support provided to individuals. Organizational support includes support to many combat, CS, and CSS units, including special operations forces, logistics units, MP units, the staff judge advocate (SJA), civil affairs units, and intelligence units. Organizational support also includes the accounting support resource managers receive. Individual support includes support to solders, sailors, airmen, marines, and civilians in the AO. Individual support also includes enemy prisoner of war (EPW)/civilian internee (CI). Input to the finance systems will most often come from the soldiers' battalion S1 section via the Tactical Army CSS Computer System (TACCS) and the Standard Installation/Division Personnel System (SIDPERS) or through the medical system. The SJA, MP, civil affairs, and logistics units provide organizational support. Organizational support encompasses locally procuring supplies and services, paying legal claims, and paying EPWs.

Finance units disburse currency in support of battlefield commanders. Currency is like another class of supply, a commodity required to execute the battle. This commodity can alleviate shortages and timing

problems related to procuring various classes of supply and services within the AO. Because of this, finance units can be a significant force multiplier. Therefore, finance unit commanders must be prepared to meet the twin challenges of providing support and surviving on the battlefield. Finance units—

(1) *Provide support for the procurement process*. Support to the logistics system and contingency contracting efforts is critical to success during all operations. Finance units will provide funds to purchase goods and services needed in a more timely manner or that are more economical to purchase locally than to transport from home station. A large percentage of finance units' wartime efforts may be executing this responsibility. Finance personnel must prevent improper or illegal payments. Finance personnel coordinate with support contracting personnel regarding local business practices. Procurement support includes contracting support and commercial vendor services (CVS) support.

(*a*) Finance groups (FGs) normally conduct contracting support. This involves paying vendors for goods and services. Examples include all classes of supply, laundry operations, bath operations, transportation, and maintenance. The FG maximizes using electronic funds transfer (EFT) payments to vendors.

(*b*) CVS support is for the force's immediate needs that the standard logistics systems cannot support. Finance support teams (FSTs) and paying agents normally pay cash for CVS (unless a credit/purchase card policy is in effect). Purchases are normally made in the local currency. Cash payments are usually for such items as pay for day laborers, class I supplements (not otherwise on contract), and purchasing construction materials not readily available through the contract or supply system. This type of support increases during operations in lesser-developed areas and remote sites. Local procurement can augment the following supply and service areas:

1. Class I: bottled water and food.
2. Class II: organization equipment and clothing.
3. Class III: petroleum, oils, and lubricants (POL).
4. Class IV: construction materials.
5. Class V: ammunition.
6. Class VI: troop support.
7. Class VII: major equipment.
8. Class VIII: medical supplies.
9. Class IX: repair parts.
10. Laborers (stevedores, drivers, mechanics, etc).
11. Dining facility and kitchen police (KP) service.
12. Clothing exchange and bath services.
13. Sanitation.
14. Mortuary affairs (MA) services (within specific parameters).
15. Transportation.
16. Billeting.
17. Utilities.
18. Maintenance and repair.

Additional information on the procurement process and procedures is in Volume 10, Department of Defense Financial Management Regulation (DOD 7000.14-R), *Contract Payment Policy and Procedures*, and in Army Federal Acquisition Regulation Supplement Manual Number 2, *Contingency Contracting.*

(2) *Provide banking and currency support*. Currency support includes supplying US currency; foreign currencies; US Treaury checks; foreign military scrip; military payment certificates (MPCs); and in some operations, precious metals (gold, silver) to US and multinational forces in the AO. Finance units provide currency and coins to AAFES facilities, tactical field exchanges, and postal units as operational considerations permit. Finance units provide cash for automated teller machines (ATMs) in

the AO. They also support Force Provider operations, either by stocking ATMs with currency or through FSTs collocated with Force Provider units. Commanders maximally use existing technology, including EFT, to minimize using cash in the AO.

The finance command (FINCOM) commander will negotiate and provide liaison with any host nation (HN) banking industry to establish local depository accounts and banking procedures. The FINCOM may need to coordinate with the local Embassy, US Army FINCOM, Defense Finance and Accounting Services, Indianapolis (DFAS-IN), and/or the Treasury Department when negotiating with HN banking facilities. The FINCOM commander will recommend guidelines for controlling and using US and foreign currencies and MPCs in the AO. The FINCOM can also serve as the central funding facility for all services in the AO. Finance commanders advise unit commanders on using local currency in conducting personal affairs. Restrictions may be imposed to prevent disrupting the local economy and to prevent and control black market operations and counterfeiting.

(3) *Control currency on the battlefield*. Stringent controls are enforced on the amounts of US currency, MPCs, and foreign currencies available and used on the battlefield. This is necessary to reduce black market activities, to secure individual soldiers' money, and to help control problems related to either US or HN currency inflation.

(4) *Provide US pay support.* As directed, finance units provide pay support to all services (both Active and Reserve components) and civilians. Finance units provide support when commanders request and as the situation permits. Availability of services will depend, in large part, on when finance units deploy. However, pay support is generally not provided to forces engaged in decisive operations. It is reasonable to expect that numerous pay changes will be generated after deployment. Supported commanders must request finance units to provide pay support. Many routine pay transactions are input via interfaces with other systems and databases. If these other systems are not operational, finance units may input the transactions as necessary since the finance commander is ultimately responsible for pay matters. Finance units maximally use automated systems to maintain soldiers' pay accounts.

(5) *Provide non-US pay support*. Finance units provide pay support for HN employees, day laborers, EPWs, and CIs. In addition, their finance units provide advice and training to EPW/CI camp commanders and staff. HN employees and day laborers receive their pay through arrangements with the host nation or tactical finance units. The local nation's civilians will receive payment in the AO. During more intense operations, accounting for this function may be transferred to a designated finance support activity (DFSA) with approval by the ASCC/CINC, DFAS-IN, and the Assistant Secretary of the Army for Financial Management and Comptroller [ASA(FM&C)].

Finance support during various levels of conflict may require task-organizing to meet requirements a particular situation may generate. Mature theaters normally consist of three echelons: theater, corps, and division. Figure 9-1 depicts typical finance units and operations within a theater. Each finance organization within the theater is explained in the following paragraphs:

(*a*) The FINCOM commander is responsible for those operational or strategic tasks that support the theater or ASCC. To accomplish those ASCC-unique tasks, the FINCOM is assigned to the ASCC. One FINCOM is allocated per ASCC. The FINCOM commander is dual hatted as the ASCC Finance and Accounting Staff Officer. The FINCOM commander may assume responsibility for policy, overall direction, and coordination of strategic and operational finance and accounting tasks that pertain to all service components, including commanding and controlling other services' finance elements. In addition, the FINCOM commander has command and control over any finance battalions (FBs) not assigned to FGs. Such FBs may provide finance support to echelon-above-corps (EAC) units (e.g., the theater support command in the ASCC AOR).

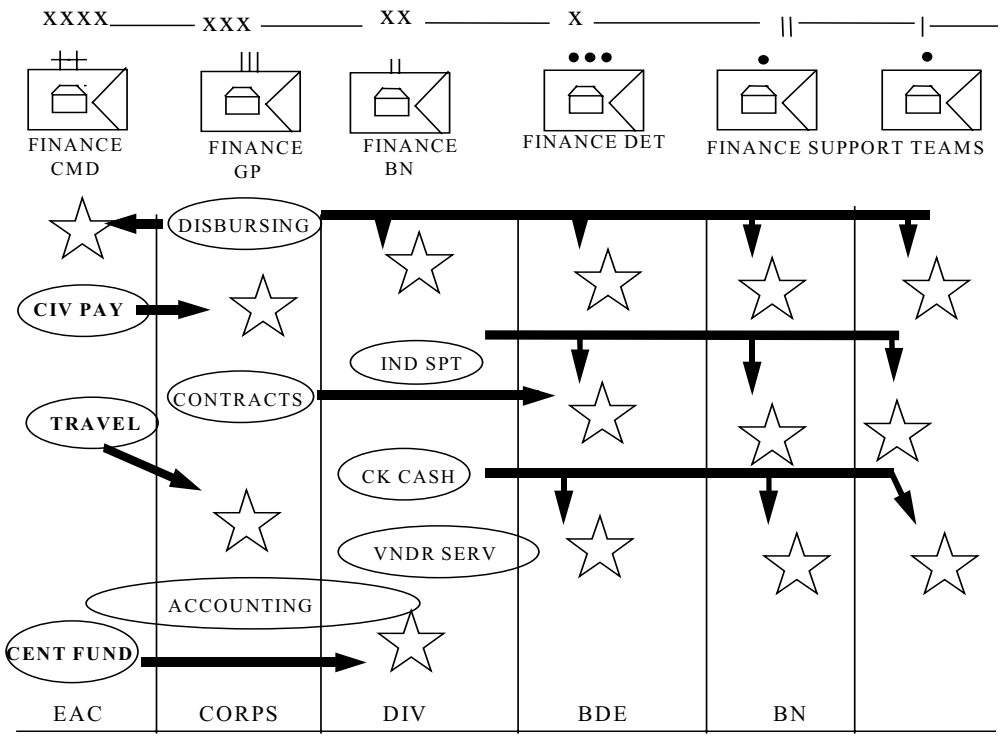


Figure 9-1.

(*b*) The finance group (FG) provides finance support to a corps. The FG commander is responsible for those operational and tactical tasks that support the corps. The FG typically provides finance support to all Army, joint, and multinational commands; units; soldiers; and authorized civilians located within the corps boundary. If there are no distinct boundaries on a nonlinear, noncontiguous battlefield, the FG commander faces an even greater challenge of providing effective finance support. The FG S2/S3 maintains common situational awareness to provide support to all units and individuals in the FG's AO.

(*c*) The finance battalion (FB) provides finance support on an area basis, typically within a division or COSCOM boundary. The FB is under the FG commander's command and control (or FINCOM commander's if the FB is providing support to EAC units in the ASCC). The FB has a modular, tailorable design that deploys to the AO only those elements required to support the deployed force. The FB can augment other finance units with modular finance detachments (FDs) to fit corps, division, or COSCOM requirements.

(*d*) The finance detachment (FD) provides finance support for units and personnel in the AO the FB commander designates. The FD will typically support an area a brigade-sized element occupies. An FD can support approximately 6,000 soldiers, often by deploying finance support teams (FSTs) to supported units' locations. The FD provides pay (US and non-US) support, commercial vendor services (CVS) support, disbursing/funding support, travel support, and finance database maintenance for units and personnel in its AO.

(*e*) The FSTs provide finance support to all units and soldiers in their AOR. They provide soldiers with disbursing support, travel support, CVS support, US pay (including civilian pay) support, and non-US pay support. FSTs have a modular design, enabling them to augment other divisions and branches of the FB or FD, depending on METT-TC. FSTs are organic to a FD. They provide onsite support for small populations at distant locations from the FB. To perform this onsite support, an FST will use the transportation and communication assets organic to its parent FB whenever possible. It can move on the battlefield to provide finance support to units within the FB's AOR. An FST normally consists of

two to five finance soldiers led by a deputy finance officer [officer or NCO, sergeant first class (SFC) or above]. An FST can perform any of the FD functions for short durations.

(*f*) The battalion S1 section and the unit clerk, in those organizations not serviced by a battalion S1 section, are the focal points where soldiers interact with the military pay system. Battalion S1 sections are the primary originators of information about soldier status and support. They are the key links among soldiers, commanders, and finance organizations. Soldier pay problems that the battalion S1 section cannot solve will be handled by deploying FSTs to the battalion S1 section or through communications with the FD/FB.

(*g*) As a result of hostilities, some finance and accounting functions may be retrograded to a higher echelon or performed at a designated finance support activity (DFSA). The DFSA is the primary financial support organization for the theater of operations. The DFSA's location will depend on the tactical situation and requirements in the geographic area. The theater army (TA), FINCOM, and FG commanders will recommend where and which finance and accounting functions to transfer within a theater. The ASA(FM&C), in conjunction with the TA commander, will decide which finance functions to transfer out of the theater. There are three alternatives in locating DFSAs. They may be located—

- In the theater of operations.
- At a designated location outside of the theater AO.
- At the Defense Finance and Accounting Service, Indianapolis (DFAS-IN). The DFAS-IN may perform retrograde finance and accounting functions in the same manner as a DFSA for a theater of operations located OCONUS when the theater's noncombatant work force is evacuated.

d. Religious support (doctrinal reference: FM 16-1, *Religious Support*). US Code, Title 10, and Army Regulation 165-5 establish the basis for the religious support mission. Religious support in the Army is distinct in two ways. First, Army ministry is conducted wherever soldiers are. Second, soldiers in an Army unit come from a multitude of faith groups. The unit ministry team (UMT) must provide for the differing groups' religious needs. Commanders, chaplains, and chaplain assistants have distinct roles and responsibilities in providing religious support to soldiers, their family members, and authorized civilians.

(1) *The commander.* The commander is responsible for ensuring that soldiers and their families can exercise religion freely. The program that provides religious support for soldiers is the commander's program. The UMT implements the commander's religious program.

(2) *The chaplain.* The chaplain "is a soldier who must possess the technical and tactical skills to perform effectively on the battlefield" (FM 16-1, page 1-2). Chaplains perform their duties and responsibilities in two interrelated roles—as staff officer and as religious leader. A chaplain is a religious leader from a particular faith group and a staff officer at the same time.

(*a*) As a staff officer, the chaplain advises the commander and staff on matters of religion, morals, and morale as affected by religion. This advice includes not only the soldiers' religious needs but also command policies' moral, ethical, and humanitarian aspects. The chaplain also gives the commander advice and information regarding the effects of religion within an AO.

(*b*) Chaplains are religious leaders certified by a particular religious tradition. They lead worship, preach, teach, perform ecclesiastical rites and ceremonies, administer sacraments and ordinances, and provide pastoral care to soldiers and their families. Chaplains perform these duties and responsibilities IAW their particular religious traditions' beliefs and practices and as personal conscience dictates.

(3) *The chaplain assistant.* The chaplain assistant is a soldier trained to assist the chaplain in providing religious support. Under the chaplain's direction, the assistant coordinates the UMT's religious

support operations. In supporting the religious support mission, the assistant's duties encompass administrative, logistics, maintenance, training, and security responsibilities. The chaplain assistant performs many staff functions, including monitoring the tactical situation; preparing the religious support estimate, plan, and annex; and coordinating religious activities. The chaplain assistant is a combatant who accompanies the chaplain in the AO and assists with battle stress casualty prevention and care.

(4) *The UMT*. The UMT is the staff section that administers the commander's religious program. The UMT is a task-organized, mission-based team. The UMT supports the religious, spiritual, and ethical needs of soldiers, their families, and authorized civilians. The UMT is normally found in maneuver units at the battalion level and higher. It consists of at least one chaplain and one chaplain assistant, along with the transportation and communications equipment normally provided for staff sections in that unit. The UMT provides religious support in three ways: unit, area, and denominational.

(*a*) Unit support. This is support the UMT provides to the assigned or attached unit. The UMT normally gives first priority to this mission.

(*b*) Area support. This is support the UMT provides to soldiers, military members, and authorized civilians who are not part of the team's unit but who operate within the supporting unit's AO.

(*c*) Denominational support. This is support given to soldiers, military members, and authorized civilians of the chaplain's own faith group. Limited assets affect the availability of denominational support.

(5) *Religious activities.*

(*a*) Worship. In support of the commander's program, the chaplain provides religious support in garrison during training, predeployment, deployment, and postdeployment. Worship facilitates the growth of faith and hope, strengthening the will of those fighting. The opportunity and method for gathering soldiers for worship will depend on METT-TC.

(*b*) Pastoral care. Pastoral care enhances morale and strengthens spiritual well-being. In providing pastoral care, chaplains help soldiers cope with the stresses and traumas of life. Pastoral care consists of visitation, counseling, casualty care, and religious support to caregivers and combat survivors.

(*c*) Spiritual fitness training. Spiritual fitness is developing those personal qualities needed to sustain a person in times of stress, hardship, and tragedy. Spiritual fitness training promotes those personal qualities that result in healthy professional and personal relationships. Spiritual fitness results from a discipline of reading, study, and prayer and by honoring the demands of a moral life.

e. *Command information services* (doctrinal reference: Army Regulation 360-81). This is the commander's means of establishing effective two-way communication with internal audiences (soldiers, civilian and local national employees, and family members). The Command Information Program's purpose is to provide timely, accurate, and truthful information between commanders and internal audiences to demonstrate the commander's commitment to mission accomplishment and his subordinates' welfare. Soldiers who are better informed tend to perform better, have a higher morale, and are more satisfied with the military than soldiers who are not well-informed. Depending on the level of command and the AO, various means are used to disseminate command information—face-to-face conversations, unit newsletters or newspapers, or magazines—to broadcast media. The Public Affairs Officer is the principal staff officer who assists the commander in this program. The Command Information Program will not be used for psychological operations, political agendas, or to ridicule individuals.

f. *Legal services support* (doctrinal reference: FM 27-1, *Legal Guide for Commanders*). The SJA provides legal services. Its mission on the battlefield includes—

(1) Providing legal assistance to commanders, staffs, and soldiers.

(2) Proactively assisting, guiding, and advising the leaders drafting the rules of engagement.

(3) Reviewing OPLANs, policies, and directives to ensure compliance with the DOD Law of War Program.

(4) Conducting law of war training.

(5) Advising commanders on controlling and regulating war trophies, requisitioning property, combat contracting, and claims issues.

(6) Advising commanders on military justice issues, jurisdictional arrangements with the country in which US forces are being deployed, adverse administrative actions, and requests for conscientious objector status.

Section II. Health Services

9-3. COMBAT HEALTH SUPPORT

This section covers AOE CHS doctrine as it exists today. Although the future Medical Reengineering Initiative changes many aspects of CHS, including command relationships, it is not yet current approved doctrine. The Army Medical Department (AMEDD) plays a key role in developing and maintaining combat power. Its mission is to maintain the Army's health to conserve its fighting strength (trained manpower). Commanders need to retain acclimated and experienced personnel to perform their particular mission. In retaining such personnel, the load on the replacement system is diminished, and the requirements for patient evacuation are decreased. On the other hand, accumulating patients within any combat unit restricts its movements. It may also reduce the soldier's willingness to take necessary risks because of a perceived lack of CHS.

9-4. CHS SYSTEM

a. Single integrated system. The CHS system is a single integrated system. It begins at the FLOT and ends in CONUS. This system entails effectively regulating sick, injured, and wounded patients in the shortest possible time to the medical treatment facilities (MTFs) that can provide the required treatment. CHS delineates support responsibility by geographic area. The system's effectiveness is measured by its ability to return soldiers to duty.

b. Organization of the CHS *system.* The Army's CHS system in a theater of operations is organized into five levels of care—unit, division, corps, EAC, and zone of the interior (ZI). "Echelon of care" is a term used in North Atlantic Treaty Organization (NATO) Standardization Agreement (STANAG) 2068 that is used interchangeably with the term "level of care." Each higher echelon of care has the same treatment capabilities as lower echelons and adds increased treatment capability that distinguishes it from the lower echelons of care. The organization for CHS is designed to be flexible. It is influenced principally by METT-TC. The CHS units are allocated based on troop strength and anticipated workload, and are established where and when requirements indicate.

9-5. MODULAR MEDICAL SUPPORT

The modular support system facilitates common medical functions performed throughout the CZ and enables the medical resource manager to rapidly tailor, augment, regenerate, or reconstitute the battlefield in areas of critical need. The modular medical support system is built around five modules:

a. Combat medic. The combat medic module consists of one combat medical specialist and his prescribed load of medical supplies and equipment.

b. Ambulance squad. An ambulance squad is comprised of four medical specialists and two ambulances, either tracked or wheeled. The squad evacuates casualties throughout the division and ensures continuity of care en route.

c. Treatment squad. This squad consists of a primary care physician, a physician's assistant (PA), and six medical specialists. The squad is trained and equipped to provide advanced trauma life support (ATLS) to battlefield casualties.

d. Area support squad. This squad includes one dentist trained in ATLS, a dental specialist, an X-ray specialist, and a medical laboratory specialist.

e. Patient-holding squad. This squad consists of two practical nurses and two medical specialists. It can hold and provide minimal care for up to 40 patients who will RTD.

9-6. ECHELONS OF MEDICAL TREATMENT

a. Echelon I (level I) (figure 9-2). The first medical care a soldier receives is provided at this echelon. This echelon of care includes—

- Immediate lifesaving measures.
- Disease and nonbattle injury (DNBI) prevention.
- Combat stress control preventive measures.
- Casualty collection.
- Evacuation from supported units.
- Treatment provided by designated individuals or a medical platoon treatment squad [which operates a battalion aid station (BAS)].

Those measures necessary to stabilize the patient and evacuate him to the next echelon of care receive major emphasis. These measures include maintaining the airway, stopping bleeding, preventing shock, protecting wounds, immobilizing fractures, and other emergency measures as indicated. Those patients who do not require a higher level of care are RTD. The following are the different personnel skill levels required in the forward area:

- *Self-aid/buddy aid*. Each soldier trains to be proficient in a variety of specific first-aid procedures. The procedures include aid for chemical casualties, particularly emphasizing lifesaving tasks. This training enables the soldier or a buddy to apply immediate care to alleviate a life-threatening situation.
- *Combat lifesaver*. The combat lifesaver is a member of a nonmedical unit who receives additional training beyond basic first-aid procedures. A minimum of one individual per squad, crew, team, or equivalent-sized unit should be trained. This is an additional duty and does not change the individual's primary duty. The combat lifesaver assists the combat medic by providing immediate care for injuries.
- *Combat medic (aidman).* This is the first individual in the CHS chain who makes medically substantiated decisions based on medical MOS-specific training. The combat medic is assigned to all medical organizations within the five echelons of care.
- *The physician and the physician's assistant (PA)* in a medical platoon treatment squad are trained and equipped to perform advanced trauma management (ATM) on battlefield casualties as well as to perform routine sick call. The PA is assigned to all medical organizations within the five echelons of care.

b. Echelon II (level II) (figure 9-2). This echelon of care includes—

(1) Evacuating patients from echelon I medical units.

(2) Providing CHS on an area basis to units without organic medical capability.

(3) Providing care at the clearing station operated by the treatment platoon of a forward (FSMC), main (MSMC), or area support medical company (ASMC). At this echelon of care, they examine the casualty, evaluate his wounds and general status, treat him and return him to duty, or determine his priority for continued evacuation. The clearing station provides CHS on an area basis to all forces within that geographic area. The clearing station normally operates in the BSA, DSA, and areas of high troop concentration in the corps rear area and COMMZ.

This echelon of support duplicates echelon I and expands available services by adding dental, laboratory, X-ray, and patient-holding capabilities. Emergency care, including beginning resuscitation procedures, is continued. Those patients who can RTD within 24 to 72 hours are held for treatment. The functions at this level are performed by medical companies organic to—

- Separate brigade support battalions.
- ACR support squadrons.
- DISCOM (heavy division) MSBs and FSBs.
- Nondivisional area support medical battalions (ASMBs) (corps and COMMZ).

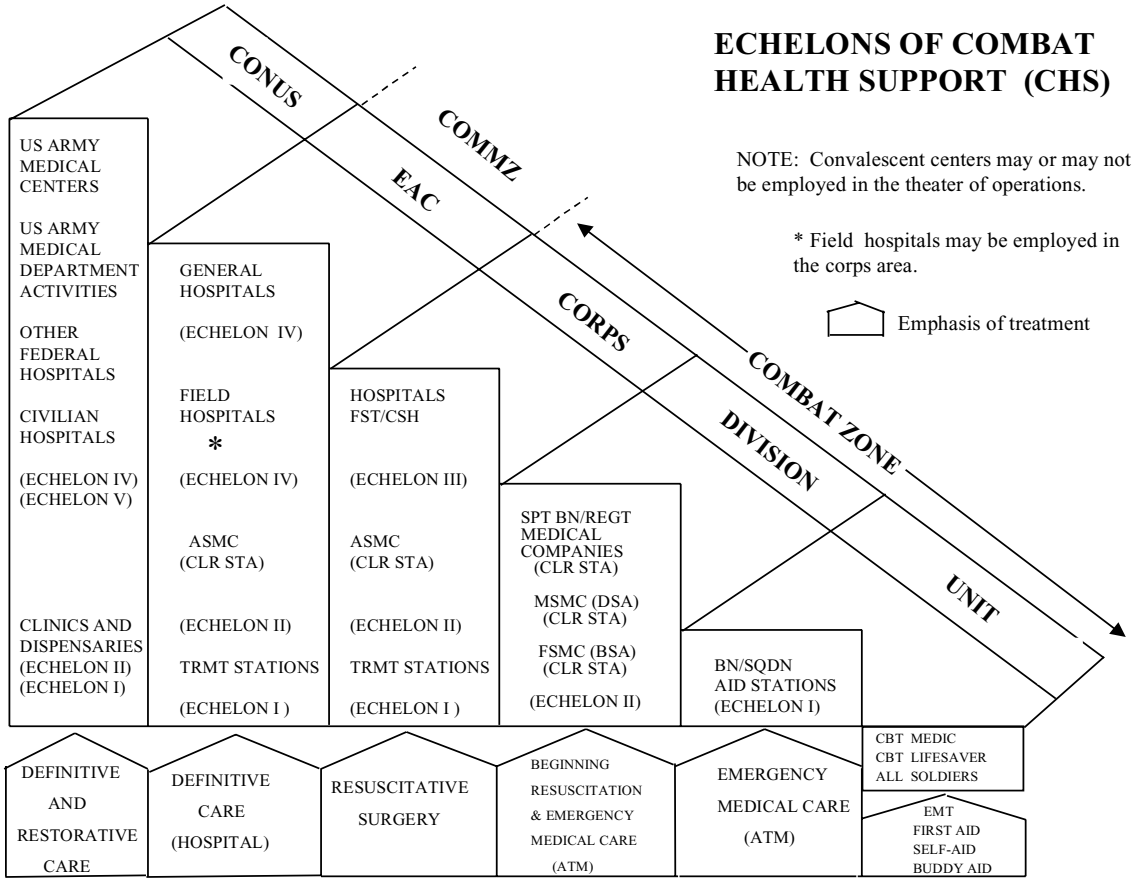


Figure 9-2. Levels/echelons of care/treatment.

c. Echelon III hospitalization (level III) (figure 9-2). This echelon of care includes—

(1) Evacuating patients from echelon I and II medical units.

(2) Providing care for all categories of casualties in an MTF with the proper staff and equipment.

(3) Providing CHS on an area basis to units without organic medical capability.

(4) Providing forward surgical teams (FSTs) employed forward in corps forward and division/ brigade rear areas.

This echelon of care expands the support provided at echelon II (division level). Casualties who are unable to tolerate and survive movement over long distances will receive surgical care in a hospital as close to the division rear boundary as the tactical situation will allow. Echelon III characterizes the care combat support hospitals (CSHs) with attached FSTs provide. Casualties whose injuries permit additional evacuation without detriment are stabilized and evacuated to a hospital farther to the rear. Those casualties who remain are expected to RTD.

d. Echelon IV (level IV) (figure 9-2). This echelon of care includes—

(1) Evacuating patients from echelon I, II, and III medical units.

(2) Treating the casualty in a CSH staffed and equipped for specialized and general medical and surgical care. This echelon of care provides further treatment to stabilize those patients requiring evacuation to CONUS.

(3) Providing CHS on an area basis to units without organic medical capability.

e. ZI (level V). In ZI CHS, the casualty is treated in ZI hospitals staffed and equipped for the most definitive care available within the AMEDD CHS system. These hospitals include DOD MTFs, Department of Veteran Affairs (VA) hospitals, and civilian hospitals. Hospitals in the CONUS base represent the final level of CHS.

9-7. UNIT-LEVEL CHS (ECHELON I/LEVEL I)

a. General. In combat, acquiring and treating sick, injured, and wounded soldiers from forward locations are unit-level functions. Unit-level CHS is closely reinforced by the other levels of CHS, each providing increased medical capabilities to the patient. During noncombat periods, unit-level medical personnel operate a sick call facility; conduct MOS training; and provide instruction to nonmedical personnel in first aid, field sanitation, patient evacuation, and personal hygiene procedures.

b. Medical platoon. In maneuver battalions, the medical platoon is organic to each battalion and provides unit-level CHS to it and other units on an area basis. As an organic part of the battalion HHC, the medical platoon is under the HQ company commander's command.

Like the HQ's other subordinate elements, the medical platoon receives (other than class VIII) supply, transportation, and food service support from the battalion support platoon and maintenance support from the battalion maintenance platoon. The supporting FSMC organic to the FSB provides medical supplies (class VIII). Requests are transmitted by the fastest means available, and supplies are moved forward by requesting unit vehicles or by supporting ground or air ambulances. Medical platoon functions include—

- Establishing and operating a BAS.
- Providing aidmen to the unit's maneuver elements as required.
- Providing ground evacuation from the point of injury or illness or from predetermined collection points to the BAS.
- Supervising and directing medical operations conducted in the unit area.

The medical platoon's size varies depending on the structure of the combat or CS unit it supports. It is composed of a medical platoon HQ, a combat medic section, an ambulance section, and a treatment squad.

9-8. DIVISION MEDICAL SUPPORT (ECHELON II/LEVEL II)

a. The division surgeon serves as a special staff officer to the division commander and normally functions under the division chief of staff's supervision. (Brigade and battalion surgeons operate under the brigade or battalion XO's general staff supervision.) The division surgeon has primary coordinating staff responsibility with the G1. Generally, his duties are administrative. The division commander normally holds him fully responsible for staff supervision, including technical supervision of all unit-level medical activities in the command. He has direct access to the division commander and staff in performing his duties and advises the division commander on all medical matters.

b. The division medical operations center (DMOC) staff is responsible to the DISCOM commander for CHS staff supervision within the DISCOM. The division surgeon exercises technical control of all medical activities within the division. The DMOC coordinates CHS according to the technical parameters the division surgeon establishes. All CHS issues and requirements are coordinated with the DISCOM units, division staff, and division surgeon before committing any CHS resources. The DMOC staff assists the division surgeon in planning and accomplishing division CHS operations. The DMOC consists of a medical operations branch, medical materiel management branch, a patient disposition and reports branch, and a medical communications branch.

c. The division medical supply office (DMSO), a section of the MSMC organic to the MSB, operates under a health service materiel officer's control. He provides division-level medical supply support to the division's organic and attached units and supervises the biomedical maintenance specialists assigned to each medical company. He also establishes stock levels and maintains demand data on stock record systems *separate* from the DMMC. Requirements and replenishment may be transmitted and received using communication assets in the DMMC. Medical supply flows follow patient-evacuation channels to the maximum extent possible and practical.

d. Division medical treatment facilities (MTFs).

(1) One *FSMC* operates in each BSA. The treatment platoons organic to these companies provide division-level CHS to brigades and units operating in the brigade area. Patients are either treated and RTD immediately or held for treatment in a 40-cot holding facility if they are expected to RTD within 72 hours. Patients who cannot RTD within this time are evacuated to an echelon III MTF. The medical company's ambulance platoon evacuates patients from BASs and from units that do not have organic medical support to the clearing station the medical company's treatment platoon operates. The ambulance platoon normally positions evacuation assets forward at BASs and evacuates patients back to the clearing station located in the BSA. Aeromedical evacuation assets may evacuate patients requiring treatment beyond the division-level CHS's capabilities directly from the BAS to corps-level medical facilities.

(2) The *MSMC* operates in the DSA. It provides unit- and division-level CHS to units operating in the division rear area. The MSMC's and FSMC's treatment platoons are identical in capabilities. In addition, the MSMC provides specialized medical services in support of the division. These services include aviation medicine, consultation, PM, mental health services, and optometry services. This company treats and evacuates patients from units operating in the division rear.

9-9. CORPS MEDICAL SUPPORT (ECHELON III/LEVEL III)

The medical organization, whether it be a medical brigade or a medical group subordinate to the COSCOM, is tailored to provide the necessary medical evacuation, hospitalization, medical regulation, medical supply and maintenance, dental care, veterinary services, PM, and other health services required to support the corps. The corps senior medical organization commands and controls all medical units in the corps except those organic to corps MSCs (less the COSCOM). This medical organization may be a medical brigade supporting a large corps consisting of three to five divisions or a medical group supporting a small corps consisting of only two divisions. The decision on whether the organization is a brigade or a group depends on many factors (e.g., the mission, number of medical units in the command, or number of troops supported). The senior corps medical organization commander is also the COSCOM surgeon.

a. The medical brigade's mission is to provide $C^{2,}$ administrative assistance, and technical supervision of assigned and attached medical units. Medical brigade commanders task organize medical assets to meet the patient workload. The medical assets are organized in modules by duty functions and are replicated throughout the theater of operations to meet these requirements. Medical brigades also regulate patient movements to and between assigned and attached MTFs.

b. The *medical group's* mission is to provide C^2 and administratively supervise assigned and attached corps medical units, including ASMBs, hospitals, evacuation battalions, combat stress control companies, dental battalions, and PM detachments. Command of the assigned medical units includes coordinating employment, evacuating patients, managing supplies and equipment, and various other HQ requirements. This command coordination is between its units and other medical elements operating in the medical group's AOR. Medical group units may be task organized to support close, deep, and rear operations.

c. Forward surgical teams (FSTs) are assigned to a corps medical brigade or medical group, the airborne/air assault division, and the ACR (light) and function as echelon II assets. They are normally attached to a corps hospital unless operationally deployed forward. The FST provides urgent, initial surgery and continued postoperative patients' care. It provides additional surgical capability when attached to a CSH; however, its primary function is to provide echelon II support within a division (echelon II). At echelon II, the team can operate continuously with a divisional or nondivisional medical company/troop for up to 72 hours. It provides urgent, initial surgery for otherwise nontransportable patients. It also provides initial surgery and postoperative care to 30 critically wounded or injured patients over a 72-hour period with its organic medical equipment sets before resupply. The corps FST will reconstitute, replace, and reinforce the airborne/air assault division and ACR FST as required. The FST depends on the unit to which it is attached or assigned for food, water, security, unit-level maintenance, patient administration, coordination for medical evacuation, and NBC decontamination support.

d. The mission of the 296-bed *CSH* is to stabilize patients before further evacuation and to RTD those soldiers within the corps evacuation policy. This hospital can handle all types of patients and will normally be employed in the corps area. The CSH provides hospitalization for up to 296 patients; surgical capacity with 8 operating room tables; consultation services for patients referred from other MTFs; pharmacy, clinical laboratory, blood banking, radiology, and nutrition care services; and physical therapy support to patients.

e. The *evacuation battalion* commands and controls air and ground medical evacuation units within the corps. An evacuation battalion normally commands and controls three to seven ground and air ambulance companies.

f. The *medical company [air ambulance (UH-1V or UH-60A aircraft)]* provides air evacuation and support within the theater of operations. This unit provides helicopter ambulances to evacuate patients consistent with evacuation priorities and operational considerations from points as far forward as possible to division MTFs and corps-level hospitals. The air ambulance company also expeditiously delivers whole blood and biological and medical supplies to meet critical requirements; rapidly moves medical personnel; and accompanies equipment and supplies to meet the requirements for mass casualty reinforcement, reconstitution, or emergency situations.

g. The *medical company (ground ambulance)* provides ground evacuation for patients within the theater of operations. This unit evacuates patients from division medical companies to corps hospitals; evacuates patients from ASMCs to corps and EAC supporting hospitals; and moves patients between hospitals and aeromedical staging facilities (ASFs), mobile ASFs (MASFs), seaports, or railheads in both the corps and COMMZ. The ground ambulance company also provides area evacuation support beyond the ASMB's capability and emergency movement of medical supplies.

h. The *medical battalion (logistics) (forward)* provides class VIII supplies, optical fabrication, medical equipment maintenance support, and blood storage and distribution to divisional and nondivisional units operating in the supported corps. It provides class VIII supply based on 15 DOS for the supported corps; DS medical equipment maintenance on an area basis; and blood processing, storage, and distribution within the corps and division medical units. Corps transportation units conduct routine distribution for class VIII other than blood.

i. The *ASMB* provides routine health services (dispensary care), emergency care, and patient evacuation on an area basis to all corps elements that do not have organic medical resources. The ASMB provides echelon I and II CHS and medical staff advice and assistance, as required, for all assigned and attached corps and COMMZ elements. The ASMB incorporates the same modular medical support system found in the division medical structure. This battalion's secondary mission is to rapidly augment/replace standardized like modules to divisional units. The ASMB commands and controls four organic ASMCs.

9-10. PATIENT EVACUATION

Patient evacuation is quickly and efficiently moving wounded, injured, or ill persons from the battlefield and other locations to MTFs. Medical personnel provide en route medical care during patient evacuation. Precisely planned evacuation plays an important role in the carefully designed treatment sequence from the FLOT rearward. As the echelons of care become more sophisticated from front to rear, so do the means of patient evacuation. The evacuation process continues for each person until he can be RTD or discharged from service. In keeping with the AMEDD mission, every effort is made, consistent with the evacuation policy, to rehabilitate patients and return them to duty at the lowest practicable echelon of care. The echelon of care to which patients are evacuated (higher evacuates from lower) is responsible for patient evacuation.

a. Medical platoons/sections conduct casualty collection and evacuation from the point of injury or illness to the BAS.

b. FSMCs and MSMCs evacuate from a BAS or AOR to a clearing station located in the BSA or DSA, respectively.

c. Evacuation battalions assigned or attached to corps medical brigades/groups evacuate from clearing stations to CSHs and move casualties between MTFs within the corps.

d. The TA medical command (MEDCOM), in conjunction with the TA transportation command (TRANSCOM), evacuates from the corps hospitals to a field or general hospital in the theater or between MTFs within the theater.

e. The US Transportation Command (USTRANSCOM) evacuates from the theater to CONUS.

9-11. EVACUATION POLICIES

The following factors affect the evacuation policy:

a. Theater evacuation policy definition. The Secretary of Defense, with the advice of the Joint Chiefs of Staff and upon the theater commander's recommendation, establishes this policy. The policy gives, in number of days, the maximum period of noneffectiveness (hospitalization and convalescence) patients may be held within the theater for treatment. The evacuation period starts when the patient is admitted to the first hospital in the corps or COMMZ hospital. This policy does not mean a patient will be held in the theater for the entire period of noneffectiveness. A patient who is not expected to RTD within the time established in the theater evacuation policy is evacuated to CONUS or some other safe haven as soon as practical. This is done when the treating physicians determine that such evacuation will not aggravate the patient's disabilities or medical condition. For example, a theater evacuation policy of 30 days does not mean a patient is held in the theater for 29 days and then evacuated. Instead, it means that a patient will be evacuated as soon as possible after it is determined he is not projected to RTD within 30 days following admission. The theater evacuation policy is based on—

(1) Nature of tactical operations—duration, magnitude, NBC, and the environment.

(2) Number and types of patients—admission rates versus geographic areas and different types of combat operations.

(3) Evacuation means. What means are available?

(4) Availability of replacements. Can CONUS replace personnel? Small-scale is different from the large-scale conflict.

(5) Availability of in-theater resources. Limiting medical resources greatly impacts the evacuation policy. The greater the limitation, the shorter the evacuation policy.

b. Corps evacuation policy definition. The corps evacuation policy establishes the maximum duration (expressed in days) of hospitalization authorized in corps medical facilities. The projected hospitalization period for a patient is computed from the date of *admission to the first hospital* in the medical evacuation chain. The policy does not imply that all patients are held for the maximum time. Patients who are not expected to RTD within the specified period will be evacuated out of the corps as soon as the appropriate medical authority determines that further evacuation will not aggravate the patient's injuries. Because of the impact of the corps evacuation policy on all aspects of support, both in the corps and the theater, the theater commander establishes the corps evacuation policy based on the theater surgeon's advice and the corps commander's recommendation.

c. Theater evacuation policy analysis. The theater evacuation policy impacts CHS requirements (figure 9-3).

(1) Length of the theater evacuation policy affects the number and types of MTFs in the CZ, theater, and in CONUS.

(*a*) Short corps (intratheater) and long theater evacuation policies mean fewer CZ hospitals and more theater hospitals.

(*b*) Short theater evacuation policy means fewer theater beds and more CONUS beds.

(*c*) Long theater evacuation policy means greater accumulation of patients in the theater and, therefore, demands a larger medical force structure.

(2) Medical material and maintenance requirements are affected. The longer the policy, the greater the medical material and maintenance consumption.

(3) Hospital construction, engineer support requirements, and all aspects of base development for CHS are affected.

(*a*) Longer evacuation policy demands establishing a larger number of theater hospitals.

(*b*) Regardless of the numbers, man-hours and construction material must be considered.

(4) Evacuation requirements will be affected.

(*a*) Shorter policy places a greater demand on the US Air Force (USAF) for tactical and strategic evacuation.

(*b*) Longer policy places greater demand on intratheater (Army) resources.

(5) Replacements for the combat soldiers will vary.

(*a*) Shorter policy would increase the requirement for replacements for the rapid turnover expected, especially for combat units.

(*b*) Transportation for inter- and intratheater requirements must be considered.

9-12. MEDICAL LOGISTICS

a. Medical supply and maintenance. The MSMC provides medical supply and medical equipment maintenance for the division and any directed nondivisional units in the division area. The corps medical battalion (logistics) (forward) provides backup support to the division medical companies and provides medical supply and maintenance support to nondivisional units located in the corps rear area. Professional medical officers and trained medical logisticians conduct medical material management because of the unique medical management procedures used in handling class VIII (medical) supplies.

Short Evacuation Policy	More evacuation assets Fewer hospital beds Fewer RTD patients More strain at next higher level Decreased logistic support
Long Evacuation Policy	Fewer evacuation assets More hospital beds More RTD patients Less strain on next higher level Increased logistic support (blood, etc.)

Figure 9-3. Theater evacuation policy impacts on CHS.

b. Medical resupply. The BAS resupplies the combat medic. Medical personnel handle and supervise this mission. The combat medic requests his supplies from the BAS. This action is not a formal request so it can be oral or written. The BAS receives requests by whatever means are available, usually by the driver or medic in the ambulance evacuating casualties to the BAS. The ambulance will then transport the requester's supplies forward from the BAS to the combat medic. This system is referred to as backhaul. Commonality of supplies between the combat medic and the ambulance equipment set may allow the ambulance crew to fill the combat medic's request from onboard stock. The ambulance crew can then replenish its stock upon arrival at the BAS. The BAS resupplies the combat lifesaver with class VIII material. Combat lifesavers in nondivisional units will obtain resupply support from the nearest medical unit capable of supporting them.

(1) The FSMC resupplies forward-deployed BASs in a heavy division. Medical supply personnel operate a resupply point for maneuver battalion BASs based on supply point distribution. When normal transportation is not available, backhaul transportation of medical supplies using returning ambulances, both air and ground, is an alternative method of moving medical supplies to the maneuver battalions.

(2)-The DMSO resupplies heavy or light division FSMCs and MSMCs. The DMSO also provides medical supply support to all units within the division area as required. Requests may come by message with returning ambulances (ground or air), by land-line/telephone, or through existing FM command nets within the division. Requests for medical supplies from BASs and medical companies are filled or forwarded to the supporting corps MEDLOG bn [forward (fwd)]. Whenever possible, the DMSO should anticipate demands and push supplies forward based on known operational requirements. The corps MEDLOG bn (fwd) resupplies the DMSO.

(3) The medical brigade HQ normally commands and controls the MEDLOG bn (fwd). The MEDLOG bn (fwd) provides medical supply, medical equipment maintenance, and optical fabrication services for units in the corps area. It establishes class VIII supply point(s) in the corps area. It also coordinates with the CMCC (MCT) to ship medical supplies forward. Air and ground ambulances can conduct emergency resupply. The theater MEDLOG bn (rear) or direct CONUS shipments resupply the MEDLOG bn (fwd).

9-13. OTHER CHS

a. Veterinary services. The US Army is DOD's executive agent for providing veterinary support to all services and other DOD/Federal agencies worldwide. These services include inspecting foods for wholesomeness and quality assurance, sanitary inspection of those facilities supplying foods to DOD components, comprehensive veterinary medical care for Government-owned animals, and preventing and controlling those animal diseases communicable to man. These services are in DS of logistic subsistence organizations, MP units, or civic action programs. Modular veterinary units provide the needed flexibility to meet such broad-based requirements. Other veterinary service personnel who support battlefield operations may be assigned to civil affairs units, area medical laboratories, units employing military working dogs, or as a veterinary staff officer.

b. PM services. PM services enhance a unit's effectiveness by reducing the individual soldier's exposure to disease and environmental hazards on the integrated battlefield. All levels of CHS in the CZ provide these services. PM services include preventing and controlling disease vectors or pests; controlling waterborne disease, including water quality surveillance of water purification facilities; controlling foodborne disease, including surveillance of ice and dining facility supplies; and technical consultation concerning selecting and developing bivouac sites, cantonment areas, refugee camps, and EPW compounds.

c. Dental services. Providing dental services as far forward as feasible minimizes the time a soldier is away from his primary duties. Dental service is divided into three categories of care: emergency, sustaining, and maintaining. Emergency care is intended to relieve pain. Examples are using medications and simple procedures such as temporary fillings. Sustaining care provides the level of treatment necessary to keep the soldier functioning in the division area. It consists of procedures such as simple restorations and denture repairs. Maintaining care is more involved and more resource dependent and, therefore, will normally be provided at corps or TA level. Four dental officers are assigned to each division, and one dentist is assigned to each ACR, separate brigade, and special forces group.

d. Combat stress control. Sustained operations, weapons of mass destruction, and the potential for forces to become intermingled in intense conflict make temporary battle fatigue casualties inevitable. Guerrilla threats count on psychological stress to disable the defender. Combat stress control company squads and sections (modules) augment mental health sections organic to division medical units to manage and treat battle fatigue casualties as far forward as the operational situation permits.

Section III. General Supply Support

9-14. INTRODUCTION

Supplying the force is one of the major elements in logistically supporting the battle. It is the process of providing all items necessary to equip, maintain, and operate a unit. Supply operations involve storing, distributing, maintaining, and salvaging supplies. Its primary purpose is to sustain soldiers and weapon systems in strategic, operational, and tactical environments on the modern battlefield.

9-15. DISTRIBUTION

Distribution is moving supplies from one location to another or from one unit to another. The Army uses three methods of distribution: supply point, unit, and throughput.

a. Supply point distribution. Supply point distribution is the normal distribution method for units that receive direct support from DS supply and maintenance units. Supported units use their organic transportation assets to pick up supplies at supporting supply points or maintenance units.

b. Unit distribution. Corps or theater transportation assets deliver supplies to customer units. The receiving unit is responsible for downloading transportation assets quickly. Unit distribution is the preferred method of distribution to using units and should be used whenever resources permit. It is also the standard method of distribution from GS to DS supply units.

c. Throughput. Throughput is a method of supply distribution wherein an intermediate supply source is bypassed to provide more efficient support. For example, EAC trucks bypass GS supply points to deliver directly to DS supply points. Engineer barrier material may be shipped directly from corps or theater class IV GS points to the emplacing unit or engineer supply point (ESP). The receiving unit quickly downloads transportation assets. This method is not automatic. It must be specified in appropriate plans and coordinated through MMC/MCC channels.

9-16. REQUISITION AND SUPPLY RESPONSIBILITIES

The supply system begins with a user submitting a request for supplies or forecast of supply requirements through supply channels until it reaches an activity capable of satisfying it. Regardless of the point at which the requisition is satisfied, the need for an item starts a chain reaction in the supply system that reaches all the way to a manufacturer in CONUS. Depots in CONUS receive items from the manufacturer and ship supplies to requesting activities as directed from NICPs.

In the theater of operations, ordering and shipping times from CONUS are major factors in determining the amount and location of supplies. Items shipped by air require less stockage in the theater than those shipped by sea because of the significant difference in travel times. Since such vital commodities as POL, ammunition, and combat rations are normally shipped by sea, these items require large stockage levels and may be held in reserve storage either in CONUS, in the theater, or afloat. Repair parts can be effectively supplied by air and require less stockage in the theater of operations.

DSUs receive, store, and issue to using units classes I, II, III(p), IV, VI, and VII and unclassified maps. DSUs are located throughout the battlefield, from the BSA to the rear of the TAACOM. Every unit on the battlefield will receive supply support from a supporting DSU on an area basis.

GSUs provide supplies to replenish DSUs and to fill nonstockage supply requests. These units are normally located in the COSCOM rear and TAACOM. Simply stated, theater GSUs are the source of supply for heavier items to the theater DSUs and the corps GSUs. The corps GSUs are the source of supply for the corps DSUs and the divisions. However, the CONUS support base ships items eligible for air shipment directly to the GSUs and/or DSUs.

9-17. MATERIEL MANAGEMENT

MMCs are the materiel managers for the units they support. They manage materiel for weapon systems, control maintenance priorities, and coordinate and control supply functions to meet supported units' operational needs. Following are the different types of MMCs found in a theater of operations:

a. DMMC, regimental MMC (RMMC), and separate BMMC. These centers manage all materiel for which their support commands (i.e., DISCOM, regimental support squadron, or separate brigade support battalion) are responsible except class VIII, COMSEC material, and classified maps. These centers receive and process requests for issue from the supported units' supply activities.

b. CMMC. This MMC is the central manager for the corps-level GS supply system (not to be confused with GSM that is not found in the corps but, rather, at the theater level). The philosophy of management is based on decentralized stockage locations with a centralized management process. The CMMC performs the functions of integrated materiel management for all corps classes of supply except class VIII, COMSEC material, and classified maps. Integrated materiel management involves requirements computation, establishing stockage levels, procurement direction and distribution, disposal, and developing guidance for maintenance priorities. It also manages all of the COSCOM maintenance activities. The CMMC accepts requisitions from the DMMC and from nondivisional DSUs. The CMMC can cross-level assets within the corps AOR. If items are not available for issue within the corps, the CMMC transfers the requisition to the TAMMC or to the CONUS NICP (also an MMC) that manages the requested item.

c. TAACOM MMC. The TAACOM MMC provides support and performs functions similar to those of the CMMC. This support is provided to units at the operational level.

d. TAMMC. The TAMMC provides inventory management functions for the entire theater. The TAMMC's focus is on distributing war reserves and managing command-controlled items. Requisitions for noncommand-controlled items are transmitted directly to an NICP with information going to the TAMMC.

e. Theater support command (TSC). Under the emerging TSC concept, the TAACOM MMC and TAMMC will combine.

9-18. CONCEPT OF OPERATIONS

a. General. To be successful, supply support must be effective and efficient. Limited resources require that supply operations be efficient. However, efficiency cannot handicap effectiveness. Five logistics characteristics facilitate effective, efficient supply operations. Foremost among these is *anticipation*. Commanders and logisticians must anticipate requirements, and so must the supply system. They *integrate* supply concepts and operations with strategic, operational, and tactical plans. Supply operations and systems must be *responsive* to the commander and provide *continuous* support to forward-deployed forces. Finally, logisticians must *improvise* to expedite actions when required.

b. The strategic level of supply. At the strategic level, supply is largely the purview of the CONUS industrial and civilian sectors. National political and military leaders, as well as civilian and military suppliers and contractors, effectively combine their efforts to provision the force. This deals with mobilization, acquisition, force projection, mobility, and concentrating supply support in the theater base and the COMMZ. Strategic-level supply is the link between the nation's economic base and the military supply operations in a theater. Strategic and operational levels interface in a theater of operations.

c. The operational level of supply. Operational-level supply focuses on sustainment, supply unit deployment, and distributing and managing supplies and materiel. Contractors and civilians provide support from within as well as outside the theater of operations. In theater, contractors and DOD civilians perform specified supply support functions. Deploying and integrating forces in the theater are based on the combat commander's campaign plan. The operational level of supply encompasses that support required to sustain campaigns and major operations. It enables success at the tactical level of war.

d. The tactical level of supply. Tactical-level supply focuses on readiness and supports the tactical commander's ability to fight battles and engagements. Successful support is anticipatory and provides the right supplies at the right time and place to supported units. Major emphasis is placed on fueling the force and supporting soldiers and their systems. Mobile, responsive capabilities are essential for accomplishing the supply mission.

e. Sources of supply. The unit maintains a sustaining level of supply that is formed from the unit basic load (UBL) and PLL. The next higher source of supply, maybe the parent battalion or a DSU, continually replenishes this sustaining level. The DSU converts the unit's request into a requisition and either satisfies the demand or forwards it to the supporting MMC. Each intermediate MMC is a potential source of supply, and the TAMMC overviews all of the command-controlled items throughout the theater of operations. Requisitions passed out of the theater are directed to the appropriate NICP for satisfaction.

f. Mobility of supplies. Supplies (UBL and PLL) maintained in a unit should be 100-percent mobile. DSU forward elements supporting a brigade or regiment must be able to move 90 percent of their cube within 30 minutes. The remaining 10 percent should be moved within 4 hours. All DSU rear units supporting divisions or larger combat units must be 50-percent mobile, and they must be able to move their remaining ASL cube by shuttle. GSU activities have limited capability to move their ASLs. The preferred method of relocating GSU stocks is to establish a satellite operation at the new location, have replenishment stocks redirected to the new location, and draw down stocks from the existing location.

g. Transition to war. This begins with the advanced warning of an impending war. During transition, supply support activities (SSAs) will selectively cancel requisitions that are not essential for the impending combat operation. Initially, deployed or deploying forces must rely on accompanying basic loads, war reserve stocks, and air delivery of class IX and maintenance-related class II. General supply items and routine follow-on supplies will generally be shipped by sea lines of communication (SLOC). Airlines of communication (ALOC) will normally fill low-density but high-need requests (see also paragraph 9-19*b*). The future force-projection Army dictates an increased requirement for detailed preplanning due to our lessened reliance on forward-deployed units and Army pre-positioned stocks.

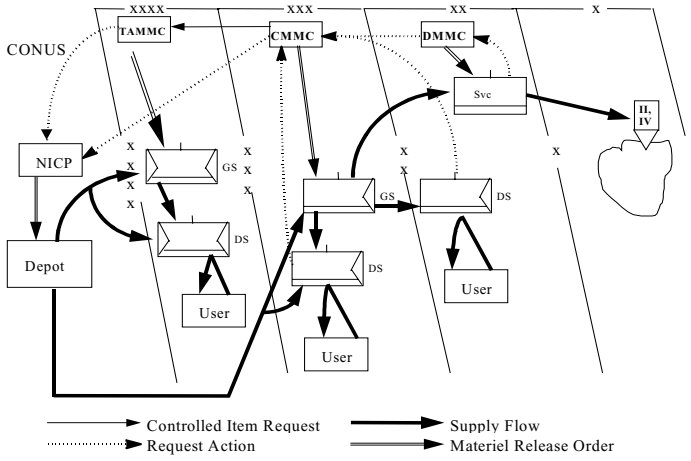
9-19. FLOW OF SUPPLIES AND SUPPLY REQUESTS

Requests for supplies generally flow from the user to the higher supply sources. Where possible, echelons are skipped to accelerate the rate of the request. As reporting procedures become faster and more reliable, it will be possible to better anticipate units' requirements and push the supplies to the units without the formality of requisitions and processing by intermediate management activities.

The CMMC receives requisitions from DMMCs, separate BMMCs, RMMCs, nondivision DSUs, and DSM units that issue their stockage items to customers to fill requests from supported units and to replace stockage items issued to customers. For line items available in corps GSUs, the CMMC prepares a materiel release order (MRO) directing the COSCOM GSU to issue the items. If the items are not available or not stocked in COSCOM GSUs, the CMMC transmits the requisition to the appropriate CONUS NICP for fill. The CONUS NICP ships the items directly to the GS/DS supply unit or to the ALOC-designated DSM unit specified on the requisition. For theater command-controlled items, the CMMC transmits the requisition to the TAMMC. The TAMMC will either fill requisitions or transmit them to the appropriate CONUS NICP for fill. Supply distribution is through surface and ALOC shipment.

a. Surface shipment. Items in supply classes I, nonmissile component V, and VII and class II, III(p), and IV items that are not eligible for air shipment are normally shipped by surface. However, depending on urgency of need and aircraft availability, some items may be shipped to an overseas theater by air. As shown in figure 9-4, surface supplies flow primarily to TA GSUs. They are issued to the corps when the TAMMC directs. Throughput of supplies to DSUs from seaports is normally restricted to nonstockage list (NSL) items. However, throughput of ASL items should occur whenever the tactical situation permits.

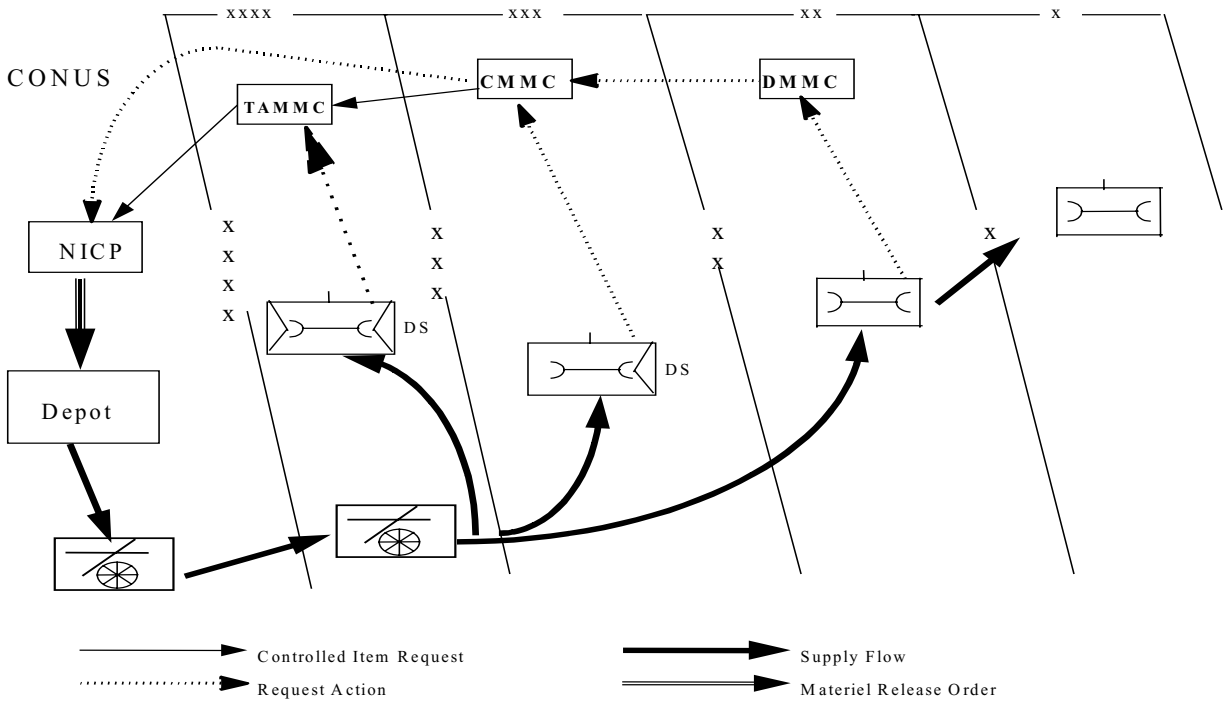
b. Air shipment. Classes VIII and IX, and maintenance-related class II items eligible for air shipment, that ALOC-designated units requisition are trucked from NICP storage depots to a consolidation and containerization point. From there, they are flown to ALOC-designated units. If applicable, these units break down the containerized shipments for ASL replenishment or distribution to their forward elements (see figure 9-5).



NOTES:

- The theater is a source of supply for heavy items.
- Based on priority, items may be released from a corps GSU to a corps DSU.
- If an item is not available in the corps, the request is transmitted either to the TAMMC where the item will be released from a TA GSU or to a CONUS NICP where the item will be released from a CONUS depot.
- A TAMMC replenishes TA GSUs with supplies from the CONUS support base.

Figure 9-4. Other classes of supply—supplied by surface transportation.



NOTES:

- The CONUS support base is the base of supply ALOC items.
- If requirements are filled from corps, GSU replenishes requests that are transmitted directly from the CMMC to CONUS. The items are brought from CONUS to the corps GSU or DSU.
- Most class IX repair parts (except high-tonnage items) and some class II items (those related to maintenance functions) are scheduled for resupply via ALOC.

Figure 9-5. Other classes of supply—supplied by air transportation.

9-20. GENERAL SUPPLY SUPPORT

a. Class I. The CMMC directs subordinate GS supply companies to "push" class I supplies forward to division DS supply company class I points based on personnel strength data, task organization, unit location, type of operation, and the wartime feeding policy. Once actual strength figures are reported in personnel status reports, supported units may begin to "pull" rations forward by submitting requests for rations and ration supplement sundries packs to their supporting DS supply company class I point. Bread items are contracted from HNS or commercial contractors.

(1) At the corps, the supply company (GS) provides class I to the division using unit distribution. Some class I may also be provided to the division via throughput distribution from theater GS supply companies. The class I is normally shipped to the MSB S&S company in the DSA and the FSB supply company in the BSA. For nondivisional support, the GS supply company distributes class I to the supply company (DS). The supply company (DS) provides class I to area customers using supply point distribution.

(2) At the division, the MSB S&S company and the FSB supply companies operate class I distribution points in the DSA and BSA. The rations are distributed to units using supply point distribution.

b. Water. The COSCOM provides potable water supply throughout the corps by demand. Water supply to nondivision units in the corps area occurs on an area basis. Where circumstances permit, engineer utility teams arrange for water to support units operating in fixed facilities. PM personnel must approve water sources. The COSCOM staff plans water support for operations in arid environments. The

CMMC provides centralized supply management, supply data, and information on COSCOM water supply support operations.

(1) Water support requirements. The type of warfare, type of battlefield, and type of environment affect water requirements. FM 10-52 provides water consumption planning factors. Factors that will also affect water support requirements include—

- Troop density and personal hygiene requirements.
- Command policy on types of rations provided.
- Command policy on frequency of showers and laundry support.
- Requirements for chemical decontamination.
- Engineer construction requirements.
- MA mission duties.
- Medical requirements.

(2) Engineer support. Engineer organizations identify surface water sources, drill wells, and perform water point construction support. Construction and maintenance include rigid water storage tanks, pipelines, and water utilities at fixed installations.

(3) Medical support. PM organizations approve water sources and provide routine surveillance to ensure that water quality meets appropriate standards. Water purification equipment operators analyze both untreated and treated water to ensure that purification equipment is operating properly and to verify that water is being adequately treated.

c. Classes II, III(p), and IV and maps.

(1) General. Classes II, III(p), and IV and maps represent a broad range of general supplies that are less visible than other commodities. Nevertheless, they contribute significantly to mission support. While the individual item cost is low, the total required/consumed dollar value is high. Soldiers require clothing and mission-oriented protection posture (MOPP) gear as well as individual equipment and tentage for shelter. Organizational clothing and individual equipment (OCIE) items will also be required for RTD personnel, medical patients, contractors, reporters, essential civilians, noncombatant evacuation order (NEO) family members, local nationals, and EPWs. The COSCOM staff develops policies and procedures for clothing and issue facilities, and analyzes personnel supply support operations for needed changes in the personnel supply support system.

(2) Concept of operation. While these commodities are grouped as general supplies, the ways they are authorized, managed, and obtained vary. The CTA authorizes many items such as clothing, tents, and office furniture. As an example, requirements for clothing and individual equipment are based on seven climatic zones. These wide variances require the commander and the supporting supply activities to be aware of the unit's mission profiles and to ensure the right stocks are issued or on order.

(*a*) At the strategic level of supply, other services and the civilian sector jointly use many class II, III(p), and IV items. Normally, this will provide a broad base for acquisition and a capability to increase the production base, allowing the commodity commands to rely on available supply sources to satisfy normal and surge requirements. On the other hand, there are items, such as clothing and maps, that are unique to the military or even to the Army. Managing these items is much different, and maintaining the production base is much more critical. Generally, these commodities are moved to the theater by SLOC. This requires the extended shipping times to be incorporated into the stockage requirements. Additionally, using Army pre-positioned stocks must be considered for the same reasons as for major items.

(*b*) At the operational level of supply, the supply companies (GS) store and maintain the reserve stocks within the theater. Initially, this would encompass any allocated war reserves and operational project stocks. If the items are designated as command-controlled, the TAMMC would perform inventory management. Noncommand-controlled items would be handled using normal requisitioning procedures. Corps DSU and DMMC requisitions will be passed to the CMMCs and TAACOM MMCs. Requisitions that cannot be satisfied from GS stocks will be passed directly to CONUS. Many of the items may also be available from other in-theater sources such as HNS and the local economy. Those items must be identified to the lowest levels and full advantage taken of the resources that are readily available without placing the requirement on the Army supply and distribution system. Many items are repairable at the operational level. Foremost is clothing and other textiles such as tents and air-delivery items. The repair capability must be considered in establishing stockage levels. Any requirements that are satisfied in the theater can offset the requirement for transportation lift from CONUS.

(*c*) At the tactical level of supply, the supply company (GS) is the major GS supplier for classes II, III(p), and IV and maps. It also maintains a portion of the reserve stocks. The division, brigade, and regiment supply companies/troops support forward units. The supply company (DS) supports nondivisional troops located throughout the theater. Supplies are distributed by either the supply point or unit distribution method. Although the unit distribution method is preferred, a combination is usually used to ensure units receive their required stocks as expeditiously as possible. Items that are returned to the supply system must be classified and turned in for repair or disposed of. The requisition and materiel flow of classes I, II, III(p), IV, and VII is shown in figure 9-6.

(3) Planning considerations. Supply planners track the tactical situation, troop buildup, and equipment readiness. This allows them to request critical supplies without waiting on unit requests. It enables them to reorganize supply elements and request backup support for the most critical requirements. Planners must coordinate with their supporting MMC to ensure supply of items that are used sparingly or not at all in peacetime. They must also establish procedures for managing items designated as command-controlled.

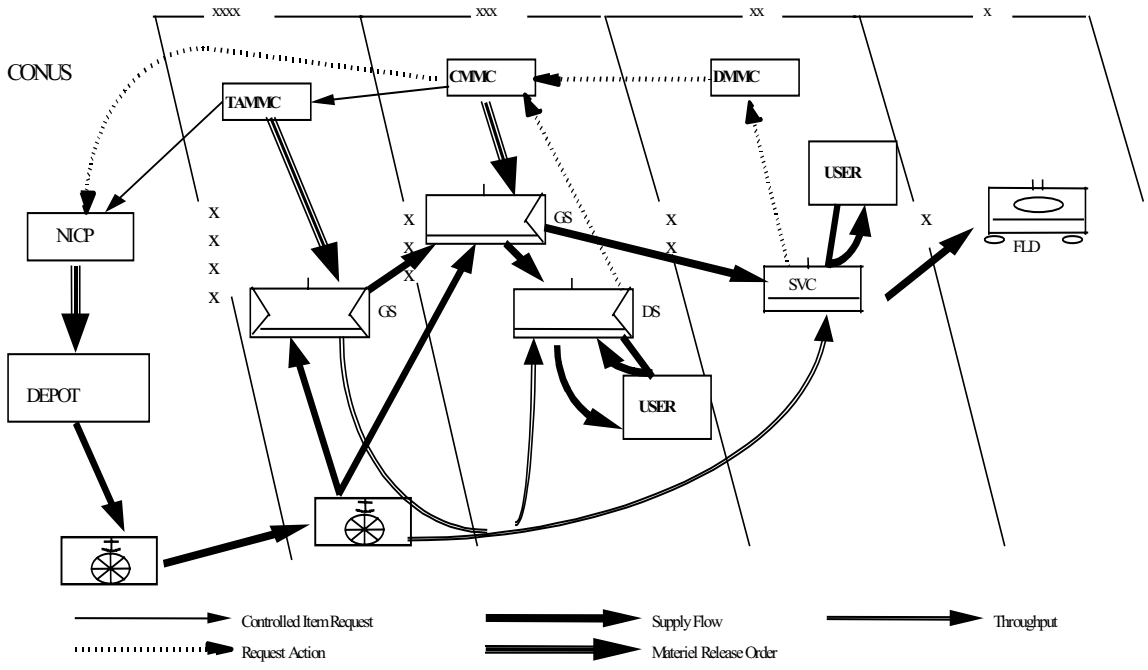


Figure 9-6. Class I, II, III(p), IV, and VII requisition and materiel flow.

(4) Unclassified map supply. The Defense Mapping Agency (DMA) provides standard maps. Both the theater and the DMA NICP handle requisitions for maps manually. Corps transportation assets deliver maps to the DS supply company class II, IV, and VII points where they are distributed to using units by supply point distribution. Maps are issued to fill established map allowances or special S2/S3 requirements.

The COSCOM MMC determines map stockage policies and reserve stockage requirements. Map stockage should cover requirements for initial operational force deployment/employment and sustained operations for a defined period of time during war, mobilization, or other crisis situations. S2 intelligence staff officers in all unit HQ determine or verify map requirements in coordination with S3 operations staff officers. The S2/G2 staff officers validate requirements for small-quantity, quick-response overprinting; special maps; map supplements; photomaps; terrain-related products; or printing to support a planned operation. They forward the request to the engineer topographic production and control detachment.

These special products do not normally enter the supply system. FSBs request unclassified maps from the MSB's S&S company. The DMMC consolidates requests and transmits unclassified map requirements to the CMMC. If maps are not available at the GS general supply company's map storage site, the CMMC requisitions maps through the TAMMC from the theater map depot operated by a TAACOM map supply detachment or from DMA map storage sites in theater or in CONUS.

(5) Classified map products. Classified map products are requisitioned through command channels by exception. Operations security (OPSEC) SOPs specify classified map product requisitioning procedures. S2/G2 staff officers validate requests submitted to the CMMC for classified map products maintained at the GS-level map storage site.

Section IV. Field Services

9-21. GENERAL

Field services include—

- The Army field feeding system.
- MA.
- Airdrop (to include parachute packing, air item maintenance, and airdrop rigging for both initial insertion and resupply operations).
- Laundry and shower support.
- Clothing and light textile repair.
- Water purification.

A variety of units found at the tactical and operational levels of logistics provide field services. Military personnel will provide the preponderance of field services support at the tactical level, with HNS or contractors providing only a limited amount. Conversely, HNS or contractors will provide a great deal of field services support at the *operational* level.

a. Field feeding is a basic unit function QM food service personnel perform throughout the theater of operations. Virtually every type of unit in the force structure, divisional or nondivisional, has some organic food service personnel. These personnel administer the unit's food service program as the commander directs.

b. MA personnel are very limited. Each division will have a small MA element (one soldier in each support battalion) organic to the DISCOM. These personnel will train divisional personnel for the

additional duties of initial search, recovery, identification, and evacuation of human remains. During hostilities, the MA personnel organic to the division will operate the initial MA collection point, with collecting, identifying, and returning human remains being a basic unit function. This procedure will continue until such time as the division is augmented with additional MA personnel or a MA unit establishes collection points in the division AO. An MA unit assigned to the COSCOM or TAACOM will support nondivisional units at the tactical and operational levels on an area basis.

c. Airdrop. The airborne division is the only division with an organic airdrop support capability. The airborne division capability is designed primarily for preparing the division for its initial insertion into an operational area. Following insertion, the airborne division can provide its own airdrop resupply support for 10 days. At that time, a COSCOM light airdrop supply company or a TAACOM heavy airdrop supply company will provide airdrop resupply support to the airborne division the same as the other divisions.

d. DS laundry and shower support at the tactical level will be provided by a COSCOM field service company that is able to send small teams as far forward as the FLOT but normally only sends them to division, brigade, regimental, or corps logistic support areas. Normally, a TAACOM-assigned laundry and renovation company provides GS laundry capability. HNS and commercial contracting will be used when available to allow critical military assets to support forward.

e. There is a limited capability for minor *clothing repair* in the field service company. In addition, QM fabric repair specialists are organic to selected DSM and GSM units to repair a variety of canvas and fabrics.

f. Elements organic to the DISCOM provide water purification for the division. The supply company (DS) provides water purification for nondivisional elements at the tactical and operational levels on an area basis. These DS capabilities are normally sufficient for providing the requisite water in temperate regions. However, a GS capability, in the form of QM water purification detachments, will be necessary when operating in arid regions.

9-22. AIRDROP OPERATIONS

This field service is required at the outbreak of hostilities. Airdrop responsibilities are spread throughout the theater. Following are some of the major responsibilities:

a. Division. The airdrop support company found only in the airborne division is primarily responsible for supporting an airborne insertion. It provides the necessary air delivery equipment in a ready-to-use configuration and prepares division equipment for airdrop. After the division is inserted, it prepares for a second insertion by supporting airdrop equipment recovery.

b. Corps provides airdrop support to divisions and nondivisional units. Under unusual circumstances, units at EAD may require airdrop resupply. The supporting TAACOM receives requirements that are beyond the corps units' capabilities. A QM light airdrop supply company and QM airdrop equipment repair and supply company normally support the corps.

c. EAC. In a fully developed theater of operations, each TAACOM requires airdrop support units. These units provide airdrop resupply to corps elements and forward areas when corps airdrop support units are unable to furnish it. The QM heavy airdrop supply company and a QM equipment repair and supply company provide this EAC support.

d. All levels. At all levels, the units receiving the airdrop resupply are responsible for recovering and initially evacuating airdrop equipment. They collect and evacuate the equipment to the nearest

salvage collection point or collection and classification (C&C) point. The equipment will be destroyed or buried only when the tactical situation does not permit recovery and retrograde.

There are some advantages to airdrop. Airdrop permits throughput of supplies from the corps and TAACOM area directly to the using unit even if a unit is in an otherwise unreachable area. In contingency operations where stocks have been established and prerigged, CONUS or OCONUS locations can throughput supplies directly. Airdrop reduces the need for forward airfields or landing zones, permits greater dispersion of ground tactical forces, and reduces delivery times. It reduces congestion at forward airfields and the need for MHE. It also provides a shorter turnaround time for aircraft than air landing, thus it increases aircraft availability.

There are also disadvantages to airdrop. Airdrop is vulnerable to enemy aircraft and ground fire. Fewer supplies and equipment can be carried for airdrop, vice air-land, because of the need to carry special airdrop equipment. Airdrop requires specially trained rigging personnel and appropriate airlift with trained crews. Adverse weather has a significant impact on airdrop operations' delivery capability and accuracy. There are two types of airdrop request procedures—preplanned and immediate.

a. Preplanned requests are based on known or projected requirements and can be programmed in advance. The request normally flows through logistic channels to the appropriate support level (corps or TAACOM). The MMC and MCC direct Army actions. Army responsibilities include moving the supplies and equipment from the storage site to the rigging site. After they are rigged, they are moved to the supporting airfield. They should then be loaded aboard the delivery aircraft. If not loaded immediately, they are temporarily stored in a location that supporting aerial port personnel choose. Loading on Air Force aircraft is an Air Force responsibility, although Army personnel may assist. The Army submits an airlift request to the joint force commander's (JFC's) designated agent. The JFC agent validates the request, assigns a priority, and then sends it to the Air Force airlift control center (ALCC) for execution. The ALCC directs the Air Force actions. Figure 9-7 shows the channels for a preplanned airdrop request.

b. Immediate airdrop requests stem from unanticipated, urgent, or priority requirements. These requirements are critical for a unit to survive or complete its tactical mission. An immediate request may be filled by an immediate mission or by diverting an aircraft from a preplanned mission. These requests flow through Army operational channels to the validating authority, which saves time. When possible, the request is passed at the same time through Air Force channels. This allows maximum time to identify support aircraft and coordinate with the JFC agent.

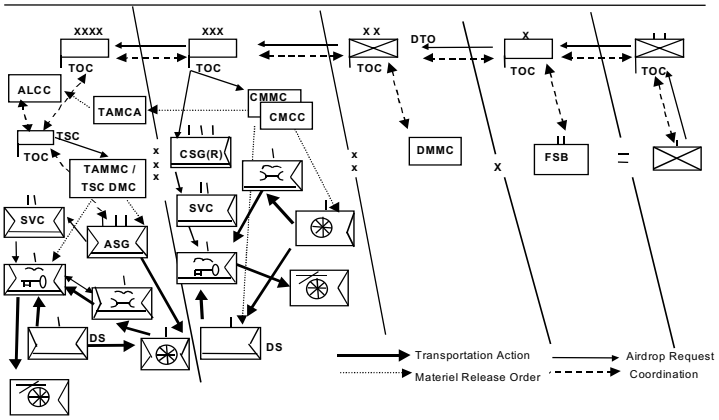


Figure 9-7. Channels for a preplanned airdrop request.

Planning considerations are found in FM 101-10-1/2. Planning factors help determine the required force structure and aircraft requirements, airdrop workload, air delivery equipment stockage levels, and equipment recovery rates. If the required force structure is not available in the COSCOM or TAACOM, the planner should examine the appropriate time-phased force deployment list (TPFDL) to determine when forces will be available and then determine if they are committed to more than one TPFDL. One alternative to nonavailable airdrop support units would be to pre-rig critical supplies and equipment for airdrop, then store them for later delivery.

9-23. MORTUARY AFFAIRS

This is one of the most important and vital field services. Americans expect the Army to take proper care of service members' remains. Traditionally, the Army has accomplished this with a level of support and respect no other nation's military force could match.

a. Responsibilities.

(1) The MA Program is a broad-based program the military services use to provide the necessary care for deceased personnel. The Joint Staff provides general guidance and policy to unified commands and military departments within DOD. Within DA, the Deputy Chief of Staff for Logistics implements the policy and recommends force structure. The unified command develops implementation plans based on Joint Staff policy, the force structure, and doctrine. The US Army Training and Doctrine Command (TRADOC) develops the standardized training and doctrine for the military services.

(2) All unit commanders must initially search, recover, identify, and evacuate the dead from their AO. Remains are evacuated to a designated collection point, mortuary, or burial site. The battlefield dead will be buried only when the tactical or logistic situation precludes evacuation. The authority for burial in theater is the theater CINC. All burials are considered temporary. As soon as conditions permit, buried remains will be recovered and returned according to policy.

b. Concept of operation. The MA Program supports both peacetime and wartime operations. It is designed to support the battlefield in a force-projection environment under all combined/joint contingency operations. Flexibility is built into the program so theater commanders can tailor proactive support for both tactical and logistic situations.

(1) The three MA subprograms follow:

(*a*) *Current death* provides mortuary supplies and services to permanently dispose of remains and personal effects of persons for whom the Army is or becomes responsible. It operates around the world in peacetime and may continue in areas of conflict depending on logistic and tactical situations.

(*b*) *Graves registration* searches, recovers, initially identifies, and evacuates deceased personnel to a mortuary or temporary burial. Only the commander in chief can authorize temporary burial. Normally this will be delegated to the theater commander or his equivalent [see 9-23*b*(2)]. Disposing of personal effects is not a part of this program.

(*c*) *Concurrent return* searches, recovers, and evacuates remains to a mortuary. It positively identifies, embalms, and disposes of remains as the next of kin directs. It also handles and disposes of personal effects. It is activated during emergencies or major military operations when conditions and capabilities permit.

(2) Each service must provide or arrange support for deceased personnel and their personal effects. The Army provides GS to other services when their requirements exceed their capabilities. At the theater level, the prime objectives are to maintain morale; provide field sanitation; and comply with the rules of land warfare, international law, and international agreements. Remains are evacuated to port of entry mortuaries in CONUS as logistics and transportation permit. Otherwise, temporary burials are

performed within the theater. The theater commander determines which of the MA subprograms to use to support the tactical and logistic situations.

(3) Collection points, located throughout the theater on an area support basis, receive and process remains (figure 9-8). Then, depending on the subprogram in effect, they evacuate them to CONUS or temporarily inter the remains and personal effects. Personal effects are processed along with the remains to the theater effects depot. Mass fatalities involving US and allied forces require emergency war burial procedures outlined in Quadripartite Standardization Agreement (QSTAG) 665 and STANAG 2070. Historically, insufficient mortuary personnel are available in the early stages of hostilities. This shortage usually requires field commanders to use combat, CS, and CSS personnel to handle remains.

(4) An MA company is normally attached to the rear CSG's S&S battalion. It will process and evacuate up to 400 remains per day and can operate in DS of contingency operations and TFs.

(5) In the division, the DSA and BSA MA facility is the MA collection point. These collection points receive and evacuate remains with personal effects but have limited capability to search for and recover remains. They move to support the maneuver elements. MA collection points employed in the DSA can be attached to the DISCOM. Those employed in the BSA can be under the FSBs' OPCON. Each collection point can process approximately 20 remains per day. Commanders will use any available

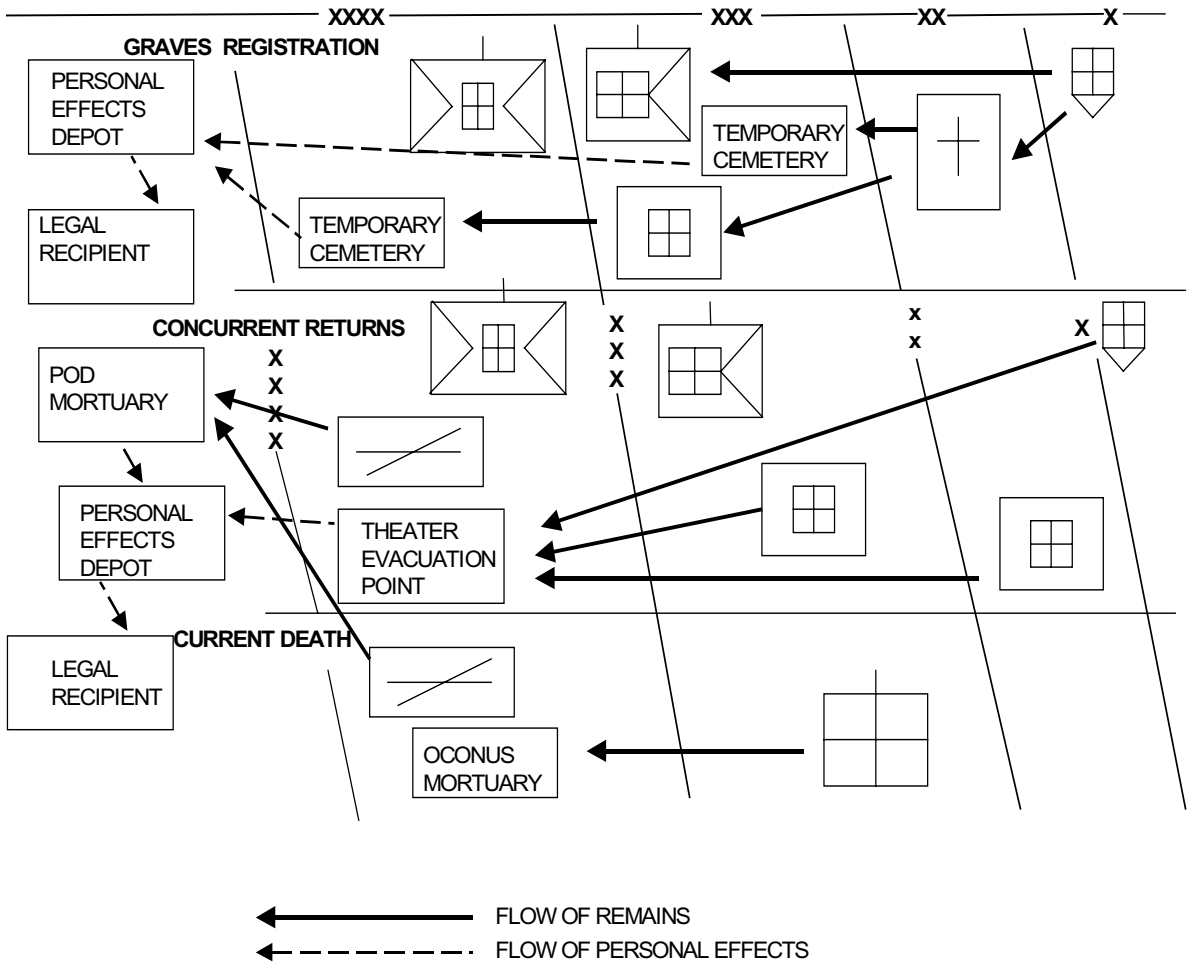


Figure 9-8. Wartime concept of operation for theater MA.

means of transport to evacuate remains to the MA activity in the rear. Evacuation responsibility is from lower to higher. For swift, successful evacuation, commanders must coordinate closely with the MCC for transportation.

(6) In the corps, area collection points and/or temporary burial sites are established as needed. Remains are evacuated from forward collection points to rearward, main collection points where they are further evacuated to the rear by air and surface transportation. Depending on the program in effect, the remains will be interred or further evacuated to CONUS or a forward-deployed mortuary in a third country. Personal effects are transported to the personal effects depot.

c. Planning considerations.

(1) During special operations and MOOTW, MA support should be planned to begin on day 1. In a theater, the Joint MA Office (JMAO) provides guidance, planning, coordination, and staff supervision of the overall theater MA Program for all services.

(2) Due to its sensitivity, MA requires intense command involvement. Logistic units operating the MA facilities must handle deceased personnel from the collection point to the port of embarkation. The physical location of all MA collection points will depend on the tactical situation; however, sensitivity to the morale of surrounding forces/units should always be considered before final site selection. Close communication and command involvement at all levels ensure the necessary controls are provided throughout the chain of command.

9-24. LAUNDRY, SHOWER, AND CLOTHING AND LIGHT TEXTILE REPAIR

These services are projected from the tactical and operational levels as far forward as the brigade area. The goal is to provide soldiers with two showers per week. However, the current force structure is only equipped and manned to provide one shower per soldier weekly. The second shower would be provided by field expediency, small-unit shower equipment, and HNS or contract operations. An additional goal is to provide soldiers up to 15 pounds of laundered clothing per week. In this process, the tactical laundry will return soldiers' laundry within 24 hours.

a. Responsibilities.

(1) The QM field service company (FSC) (DS) primarily provides tactical field services to division and nondivisional personnel from the corps area to the FLOT. This includes shower, laundry, limited clothing repair, and delousing. It is normally assigned to a CSB in the COSCOM.

(2) The combat support hospital (CSH) has organic equipment to support its patient load. The FSC supports CSH staff personnel in their AO.

b. Concept of operations.

(1) The concept has been developed around the FSC (DS). The FSC normally operates at the tactical level of logistics in the corps forward or division area as far forward as METT-TC allows. Maximum use of HNS will augment the FSC's ability to provide support, as required, to rear support forces. The FSC is modular by design, with an HQ and five SLCR sections. The SLCR sections are 100-percent mobile, capable of supporting 500 soldiers per day, and may be deployed to support a brigade-sized element. Soldiers arrive at the shower point dirty, with their dirty clothing to turn in and clean clothing to change into. They can take their showers and turn in dirty laundry and clothing in need of minor repair. When medical personnel have determined that mass delousing is required, the operations are conducted in conjunction with shower operations.

(2) A new development in bringing together a number of field services to give the front-line soldier a brief respite from the rigors of combat is the QM Force Provider Company. Normally attached to an S&S bn or CSB within the COSCOM or a TAACOM, it can operate up to six independent modules providing climate-controlled billeting, food service, shower and latrine, laundry, and facilities for MWR. It is designed to support a brigade-sized unit and is limited to three per theater.

c. Planning considerations. This is an extremely limited resource in the Army force structure so advance planning is important. Site selection should allow for plenty of clean water, proper drainage, gentle sloping terrain, good roads, and natural cover and concealment. The general planning factor for hot, cold, and temperate climates is 6.5 gallons per soldier per day for laundering clothing and 3 gallons per soldier per day for showers.

9-25. WATER PURIFICATION

Water operations were covered earlier as a supply item, but it is also a field service.

a. Responsibilities.

(1) The Army coordinates policy and procedures for joint plans and requirements for all DOD components that provide water resources to land-based forces in contingency operations. The Army ensures that coordinated plans for technological research and development and equipment acquisitions meet DOD goals and that duplicative efforts are resolved. Each service provides its own water resource support. However, the Army or another service will provide support beyond a service's capability in a joint operation.

(2) Within the theater, the TA commander controls water and distributes it to US Army forces, to other US services, and, as required, to allied support elements. The senior engineer HQ and its subordinate organizations must find subsurface water; drill wells; and construct, repair, maintain, and operate permanent and semipermanent water facilities. They also assist QM water units with site preparation when required. The command surgeon tests water sources, monitors potable water, and interprets the water testing results. Medical command or corps PM personnel primarily monitor water quality. Water supply units perform routine testing.

b. Concept of operations. Water support in a theater of operations is provided at two levels, DS and GS. QM units normally provide water using supply point and limited unit distribution. In most regions of the world, surface water is readily available and normal DS capabilities are sufficient to meet requirements. In an arid environment, available water sources are limited and widely dispersed. Surface fresh water is almost nonexistent, and the availability of subsurface water varies within geographic regions. The lack of water sources mandates extensive storage and distribution. GSUs provide this capability.

(1) Strategic level. Because of the scarcity of potable water in Southwest Asia, water support equipment is pre-positioned afloat to provide initial support to a contingency force. Additional water equipment is available in CONUS depots to sustain operations. Most of the equipment is packaged for tactical transportability and configured to allow for throughput to the user with minimal handling in the theater of operations.

(2) Operational level. In an operation where surface water is abundant, the QM supply company (DS) provides water on demand. During the early stages of the operation, combat forces may be required to provide water until CSS units arrive. In arid regions where there is no sufficient water source, GS water systems are established. The petroleum group or CSG commands and controls all GS water assets. The water supply battalion commands two to six water supply companies, purification detachments, and transportation medium truck companies dedicated to water line-haul. Corps truck companies augmented with semitrailer-mounted fabric tanks (SMFTs) line-haul potable water throughout the theater. GS

purification detachments and teams and DS water elements produce all potable water required within the theater.

Water supply companies are assigned to the force to establish and operate bulk storage and distribution facilities. Arrival in theater is such that the water distribution system expands as the theater grows and provides adequate support to tactical operations. Tactical water distribution teams are assigned to water supply companies, as required, to augment capabilities for hose line distribution. Potable water is distributed to terminals within the TA area and forward into the corps.

(3) Tactical level. DS water elements provide potable water by supply point and limited unit distribution. Water supply points are established as far forward as possible depending on the location of available water sources, consuming units, and the commander's tactical plan. The most forward location is normally the BSA. Supported units draw water from supply points using organic transportation. Water purification elements draw and purify water from ponds, lakes, streams, rivers, wells, and local water systems. When water elements are unable to meet user requirements, they request assistance from higher HQ. See figure 9-9 for DS operations and figure 9-10 for GS operations.

Corps QM DS supply companies provide nondivisional water support on an area basis. The water supply section is structured to operate three water points. Each point can produce as much as 3,000 gallons of potable water per hour and store up to 30,000 gallons. The unit also delivers water to major users who are unable to support themselves and establishes mobile supply points. Water elements provide divisional water support on an area basis. The division, brigade, or ACR establishes procedures and allocations for subordinate units. The division MSB water section establishes water points in the DSA and each BSA. The division, as well as the separate brigade and ACR, has enough water production and distribution capabilities to allow it to be self-supporting under normal conditions. Water element capabilities vary according to the modified tables of organization and equipment (MTOE). FM 10-52 has more detail on unit capabilities.

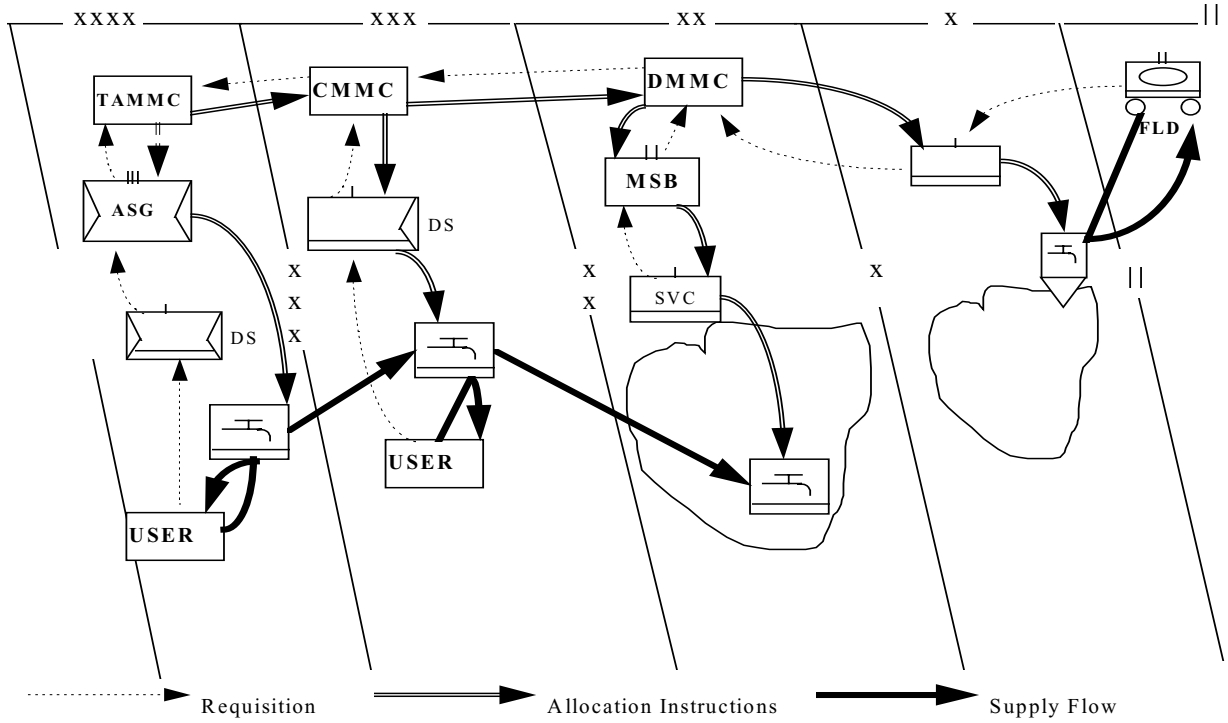


Figure 9-9. DS water support in nonarid regions.

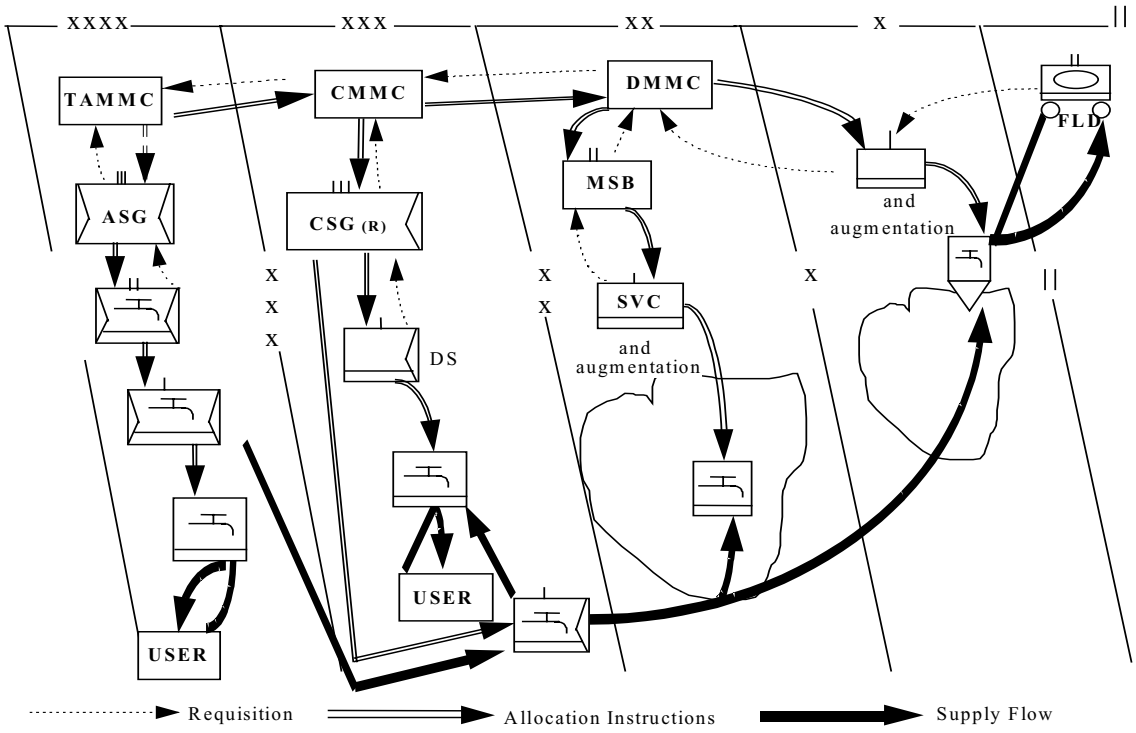


Figure 9-10. GS water support in arid regions.

9-26. FIELD FEEDING

Class I has already been covered. The encompassing program that covers class I support is Army field feeding operations, a field service. The shift to a force-projection Army has imposed requirements for more mobility, responsiveness, and flexibility on Army field operations. The new Army Field Feeding System—Future (AFFS-F) is designed to meet these requirements for current and future Army operations. The AFFS-F improves Army field feeding operations; provides efficiency in labor, water, and fuel requirements; and increases mobility.

a. AFFS-F feeding standard. The standard is that soldiers will be fed three quality meals daily. When units deploy under combat conditions or to support contingency plans, they will initially consume meals, ready to eat (MREs). As the theater matures and METT-TC allows, soldiers will also consume a variety of group feeding rations. The commander should not authorize A-ration meals until static and mobile refrigeration is available to safely move them through the system until they are consumed.

b. Rations. Rations are packaged as individual or group meals. The MRE is the general individual operational ration. The individual meal is best suited for intense levels of combat when soldiers are in transit, in movement to contact, or in convoy. It is supplemented with an individual ration-heating device and is issued for consumption in situations where it is not feasible to use a prepared group ration. The group meals (T-, B-, or A-rations) or the new unitized group meal are best used when units are located in more stable or uncontested regions on the battlefield or in the AO. Group meals can be prepared using either heat-and-serve (T-rations) or full-scale raw food preparation methods. Group rations require more time and resources (water, fuel, labor) to prepare and serve.

c. Bread. Bread or bread-like components are essential parts of Army field feeding. When using the MRE, pouch bread will be the primary source for bread. It will always be the initial source for bread

on the battlefield. As the tactical and logistic situations permit, the HNS or commercial vendors may provide fresh bread. HNS and commercial contracting will be the primary source of bread.

d. Equipment. There are several items in the Army inventory used to support AFFS-F. They range from individual pieces of equipment, such as the canteen cup stand, to items designed to support entire units such as large field kitchens. The two primary systems remain the mobile kitchen trailer and the kitchen, company-level, field-feeding.

Section V. Quality of Life

Ensuring quality of life is a command responsibility. Quality of life and family considerations affect every soldier's readiness and willingness to fight. Effective personnel services, health services, general supply support, and field services ease immediate soldier concerns. The soldier fights best when he is reassured that his loved ones are adequately cared for at home station, especially when units deploy from forward-presence locations. The family supports the soldier best when it is assured that the soldier is appropriately cared for. Accurate and timely delivery of mail enhances the quality of life of the soldier in the field. Command information provided to family members must be as timely and accurate, especially in an age of instant communications in which a soldier's friend may be sharing news about a loved one in almost real time. There is a direct relationship between adequate, well-thought-out soldier and family quality of life programs, soldier morale, and combat effectiveness.

APPENDIX A

ACRONYMS AND GLOSSARY OF LOGISTICS TERMS

Section I. Acronyms

AA	assembly area
AAFES	Army and Air Force Exchange Service
AB	aviation brigade
ABL	ammunition basic load
ACofS	Assistant Chief of Staff
ACR	armored cavalry regiment
ADA	air defense artillery
ADP	automatic data processing
AFFS-F	Army Field Feeding System—Future
AG	adjutant general
AIT	automatic identification technology
ALCC	airlift control center
ALOC	air lines of communication
AMC	aviation maintenance company
AMEDD	Army Medical Department
AMO	automation management officer
AMOPES	Army Mobilization Operations Planning and Execution System
AMSS	Army Materiel Status System
AO	area of operations
AOE	Army of Excellence
AOR	area of responsibility
APOD	aerial port of debarkation
APOE	aerial port of embarkation
ARNG	Army National Guard
ASA	ammunition supply activity
ASA(FM&C)	Assistant Secretary of the Army for Financial Management and Comptroller
ASCC	Army service component command(er)
ASF	aeromedical staging facility
ASL	authorized stockage list
ASMB	area support medical battalion
ASMC	area support medical company; area support maintenance company
ASP	ammunition supply point
ATACMS	Army Tactical Missile System
ATLS	advanced trauma life support
ATM	advanced trauma management; automated teller machine
ATP	ammunition transfer point
AVIM	aviation intermediate maintenance
AVUM	aviation unit maintenance
AXP	ambulance exchange point
BAS	battalion aid station
B/B	breakbulk
BCT	brigade cavalry troop
BDAR	battle damage assessment and repair
BII	basic issue item
BMMC	brigade materiel management center

BMO	battalion maintenance officer
bn	battalion
BSA	brigade support area
BSC	base support company
btry	battery
C&C	collection and classification
C^2	command and control
C^2SRS	command and control strength reporting system
CASCOM	US Army Combined Arms Support Command
cbt	combat
CCP	casualty collection point
CE	communications-electronics
CGSC	U.S. Army Command and General Staff College
CHS	combat health support
CI	civilian internee
CINC	commander in chief
CL	combat load
CLT	cellular logistics team
CMCC	corps movement control center
CMMC	corps materiel management center
CMT	combat medical team
co	company
COMMZ	communications zone
COMSEC	communications security
CONUS	continental United States
COSCOM	corps support command
CP	command post
CRC	CONUS replacement center
CRT	combat repair team
CS	combat support
CSA	corps storage area
CSB	corps support battalion
CSG	corps support group
CSH	combat support hospital
CSR	controlled supply rate
CSS	combat service support
CSSCS	Combat Service Support Control System
CTA	common tables of allowances
CTCP	combat trains command post
CVS	commercial vendor services
CZ	combat zone
DA	Department of the Army
DASB	division aviation support battalion
DAO	division ammunition officer
DCSPER	Deputy Chief of Staff for Personnel
DFAS-IN	Defense Finance and Accounting Service, Indianapolis
DFSA	designated finance support activity
DIVARTY	division artillery
DISCOM	division support command
DMA	Defense Mapping Agency
DMC	distribution management center
DMMC	division materiel management center

DMO	distribution management office
DMOC	division medical operations center
DMSO	division medical supply office
DNBI	disease and nonbattle injury
DOD	Department of Defense
DODIC	Department of Defense identification code
DOS	days of supply
DS	direct support
DSA	division support area
DSB	division support battalion
DSM	direct support maintenance
DSMC	division support medical company
DSU	direct support unit
DTO	division transportation officer
EAC	echelons above corps
EAD	echelons above division
EFT	electronic funds transfer
EOD	explosive ordnance disposal
EODCT	EOD control team
EPW	enemy prisoner of war
ESE	engineer support element
ESP	engineer supply point
EST	engineer support team
1SG	first sergeant
FA	field artillery
FARE	forward area refueling equipment
FARP	forward area rearm/refuel point
FB	finance battalion
FBCB^2	Force XXI Battle Command Brigade and Below (system)
FD	finance detachment
FG	finance group
FINCOM	finance command
fld	field
FLOT	forward line of own troops
FLE	forward logistics element
FM	field manual; frequency modulated (radio)
FMLB	forward medical logistics battalion
FRAGO	fragmentary order
FRS	Forward Repair System
FSB	forward support battalion
FSC	field service company; forward support company
FSMC	forward support medical company
FSSP	fuel system supply point
FST	finance support team; forward surgical team
fwd	forward
FY	fiscal year
GCSS-A	Global Combat Support System—Army
GMC	ground maintenance company
GPM	gallons per minute
GS	general support
GSE	ground support equipment

GSM	general support maintenance
GSU	general support unit
HDC	headquarters and distribution company
HEMTT	heavy expanded mobility tactical truck
HET	heavy-equipment transporter
HHC	headquarters and headquarters company
HHD	headquarters and headquarters detachment
HHT	headquarters and headquarters troop
HLP	heavy-lift platoon
HMMWV	high-mobility multipurpose wheeled vehicle
HN	host nation
HNS	host nation support
HQ	headquarters
HQDA	Headquarters, Department of the Army
HSC	headquarters and supply company
HTARS	hot tactical aircraft refueling system
IAW	in accordance with
ISO	International Standards Organization
ITV	in-transit visibility
JFC	joint force commander
JMAO	Joint Mortuary Affairs Office
JMRO	Joint Medical Regulating Office
JOPES	Joint Operation Planning and Execution System
JP	joint publication
JTF	joint task force
KM	kilometer
KP	kitchen police
LID	light infantry division
LIN	line item number
LO	liaison officer
LOC	lines of communication
LOGCAP	Logistics Civil Augmentation Program
LOGPAC	logistics package
LOTS	logistics-over-the-shore operations
LRP	logistics release point
LRU	line replaceable unit
MA	mortuary affairs
MAC	maintenance allocation chart
MACOM	major Army command
MASF	mobile aeromedical staging facility
MCA	movement control agency
MCC	movement control center
MCL	mission-configured load [formerly combat-configured load (CCL)]
MCO	movements control officer; maintenance control officer
MCP	maintenance collection point
MCS	maintenance control section
MCT	movement control team
MEDCOM	medical command

MEDLOG	medical logistics
METT-TC	mission, enemy, troops, terrain and weather, time available, and civilians
MHE	materials handling equipment
MI	military intelligence
MKT	mobile kitchen trailer
MLP	medium-lift platoon
MLRS	multiple-launch rocket system
MMC	materiel management center
MOADS/PLS	maneuver-oriented ammunition distribution system—palletized loading system
MOGAS	motor gasoline
MOOTW	military operations other than war
MOPP	mission-oriented protection posture
MOS	military occupational specialty
MP	military police
MPC	military pay certificate
MPRJ	Military Personnel Records Jacket, US Army
MRE	meal, ready to eat
MRO	materiel release order
MRT	movement regulating team
MSB	main support battalion
MSC	major subordinate command
MSMC	main support medical company
MSR	main supply route
MST	maintenance support team
MTF	medical treatment facility
MTMC	Military Traffic Management Command
MTOE	modified table(s) of organization and equipment
MTS	Movement Tracking System
MWO	modification work order
MWR	morale, welfare, and recreation
NATO	North Atlantic Treaty Organization
NBC	nuclear, biological, and chemical
NCA	National Command Authorities
NCO	noncommissioned officer
NEO	noncombatant evacuation order
NICP	national inventory control point
NSL	nonstockage list
OCIE	organizational clothing and individual equipment
OCONUS	outside CONUS
ODCSLOG	Office of the Deputy Chief of Staff for Logistics
OMPF	official military personnel file
OPCON	operational control
OPLAN	operation plan
OPORD	operation order
OPSEC	operations security
ORF	operational readiness float
P&A	personnel and administration
PA	physician's assistant
PASR	personnel accounting and strength reporting
PBO	property book office
PDY	present for duty

PLL	prescribed load list
PLS	palletized loading system
PM	preventive medicine
POD	port of debarkation
POL	petroleum, oils, and lubricants
PRM	personnel readiness manager
PRR	personnel requirements report
PSB	personnel services battalion
PSR	personnel status report
PSS	personnel service support
PSYOP	psychological operations
PW	prisoner of war
QM	quartermaster
QSTAG	Quadripartite Standardization Agreement
RAOC	rear area operations center
RMMC	regimental materiel management center
ROAMS	Replacement Operations Automated Management System
ROC	rear operations center
ROM	refueling on the move
RP	release point
RSOI	reception, staging, onward movement, and integration
RSR	required supply rate
RTD	return to duty
RX	reparable exchange
S&P	stake and platform
S&S	supply and service
S&T	supply and transport
SAAS-MOD	Standard Army Ammunition System—Modernization
SAMS-2	Standard Army Maintenance System—Version 2
SARSS-1	Standard Army Retail Supply System—1
SC	sideless container
SCL	strategic-configured load
SFC	sergeant first class
SHORAD	short-range air defense (system)
SIDPERS	Standard Installation/Division Personnel System
SJA	Staff Judge Advocate
SLCR	shower, laundry, and clothing repair
SLOC	sea lines of communication
SMFT	semitrailer-mounted fabric tank
SOP	standing operating procedure
SPBS-R	Standard Property Book System—Redesigned
SPO	support operation; support operations officer
SPOD	seaport of debarkation
SRA	special repair activity
SRP	soldier readiness program
SSA	supply support activity
SST	system support team
ST	student text
STAMIS	Standard Army Management Information Sysytem
STANAG	Standardization Agreement
STON	short ton

TA	theater army
TAACOM	theater army area command
TACCS	Tactical Army CSS Computer System
TAMCA	theater army movement control agency
TAMMC	theater army materiel management center
TAMMS	The Army Maintenance Management System
TAPDB	total Army personnel data base
TAV	total asset visibility
TC-AIMS II	Transportation Coordinators' Automated Information for Movement System II
TCC	transportation component command
TDA	table of distribution and allowances
TF	task force
TFSA	task force support area
TMT	transportation motor transport
TOC	tactical operations center
TOE	tables of organization and equipment
TOW	tube-launched, optically tracked, wire-guided
TPFDL	time-phased force deployment list
TPU	tank and pump unit
TRADOC	US Army Training and Doctrine Command
TRANSCOM	US transportation command
TSA	theater storage area
TSC	theater support command
TTHS	transients, trainees, holdees, and students
TTP	trailer transfer point
UBL	unit basic load
ULLS-A	Unit-Level Logistics System—Air
ULLS-G	Unit-Level Logistics System—Ground
ULLS-S4	Unit-Level Logistics System—S4
UMCP	unit maintenance collection point
UMMIPS	Uniform Materiel Movement and Issue Priority System
UMT	unit ministry team
USAF	US Air Force
USAR	US Army Reserve
USARPERCEN	US Army Personnel Center
USO	United Service Organizations
USTA PERSCOM	US Total Army Personnel Command
USTRANSCOM	US Transportation Command
UXO	unexploded ordnance
VA	Department of Veteran Affairs
WHNS	wartime host nation support
WSM	weapon system manager
WSRO	weapon system replacement operations
XO	executive officer
ZI	zone of interior

Section II. Logistics Terms and Definitions

accompanying supplies (JP 1-02)—Unit supplies that deploy with forces. (Army)—All classes of supply units and individual soldiers carry during deployment to, and redeployment from, an area of operations (AO) or training exercise area. (See also basic load, classes of supply, and combat load.) See FMs 100-10 and 100-16.

administrative control (JP 1-02)—Directing or exercising authority over subordinate or other organizations on administration and support, including organizing service forces, resource and equipment control, personnel management, unit logistics, individual and unit training, readiness, mobilization, demobilization, discipline, and other matters not included in the subordinate or other organization's operational missions. (See also command relationship.) See FMs 1-111, 71-100, 100-5, 100-7, 100-15, and JP 0-2.

administrative landing (JP 1-02)—An unopposed landing involving debarking from vehicles that have been loaded administratively. (See also administrative movement.) See FM 71-100-2 and JP 3-02.

administrative movement (JP 1-02, NATO)—A movement in which troops and vehicles are arranged to expedite their movement and conserve time and energy when no enemy interference, except by air, is anticipated. (See also administrative landing.) See FM 101-5.

advance party—A team that coordinates the convoy's arrival at the destination. It may move with the main body initially but must arrive at the destination sufficiently ahead of the main body. (See also march column.) See FM 55-30.

aerial port (JP 1-02)—An airfield that is designated for the sustained air movement of personnel and materiel, and to serve as an authorized port for entrance into or departure from the country in which located. See FMs 55-12 and 100-17.

aerial port of debarkation (APOD)—An airfield for sustained air movement at which personnel and materiel are discharged from aircraft. APODs normally serve as ports of embarkation (POEs) for return passengers and retrograde cargo shipments. See FM 55-12.

aerial port of embarkation (APOE)—An airfield for sustained air movement at which personnel and materiel board or are loaded aboard aircraft to initiate an aerial movement. APOEs may serve as ports of debarkation for return passengers and retrograde cargo shipments. See FM 55-12.

aeromedical evacuation (JP 1-02)—Moving patients under medical supervision to and between medical treatment facilities (MTFs) by air transportation. (Army)—Usually, moving patients from a lower-echelon MTF to a higher-echelon MTF. See FM 8-10-6.

afloat support (JP 1-02, NATO)—A form of logistic support outside the confines of a harbor in which fuel, ammunition, and supplies are provided for operating forces either under way or at anchor. See FM 71-100-2 and JP 3-02.

aid station—The first medical treatment "facility" (MTF) that can provide advanced trauma management (ATM) to a battlefield casualty. It performs first-level casualty triage evaluation and conducts routine sick call. (See also medical care echelon.) See FMs 8-10-3, 8-10-4, 8-10-5, 8-10-24, and 8-55.

airdrop (JP 1-02)—Unloading personnel or materiel from aircraft in flight. (See also air movement.) See FMs 7-30, 55-12, 71-100-2, and JP 3-18.1.

air movement (JP 1-02, NATO)—Air transport of units, personnel, supplies, equipment, and materiel. [See also aerial port of embarkation (APOE) and aerial port of debarkation (APOD).] See FMs 7-30, 55-12, 71-100-2, and JP 3-18.1.

allocation (JP 1-02)—In a general sense, distributing limited resources among competing requirements for employment. Specific allocations (e.g., air sorties, nuclear weapons, forces, and transportation) are described as allocation of air sorties, nuclear weapons, etc. See FM 100-15.

alternate supply route (ASR)—A route or routes designated within an AO to move traffic when main supply routes (MSRs) become disabled or congested. (See also MSR.) See FMs 17-95, 55-10, and 71-100.

ambulance exchange point (AXP) (Army)—A location where a patient is transferred from one ambulance to another en route to an MTF. This may be an established point in an ambulance shuttle system or it may be designated independently. See FMs 8-10-1, 8-10-3, 8-10-4, 8-10-6, 63-2, and 63-20.

ammunition supply point (ASP)—An area designated to receive, store, reconfigure, and issue class V materiel. It is normally located at or near the division area. See FM 9-6.

ammunition transfer point (ATP)—A designated, temporary site from which class V materiel is transferred from corps transportation to unit vehicles. See FMs 71-100 and 100-10.
apportionment (JP 1-02)—In the general sense, distributing planning for limited resources among competing requirements. Specific apportionments (e.g., air sorties and forces for planning) are described as apportionment of air sorties and forces for planning, etc. (Army)—Determining and assigning the total expected effort by percentage or priority that should be devoted to the various air operations or geographic areas for a given period of time. (See also allocation.) See FMs 100-103 and 100-15.
area support—Method of logistics and combat health support (CHS) in which direct support (DS) combat service support (CSS) relationships are determined by the location of the units requiring support. Subordinate DS units provide area support to units located in or passing through their areas of responsibility (AORs). (See also AOR.) See FMs 8-10, 8-10-1, 8-10-4, 8-10-9, 8-10-24, 10-1, and 100-10.
assembly area (AA) (JP 1-02, NATO)—An area in which a command assembles to prepare for further action. In a supply installation, the gross area used for collecting and combining components into complete units, kits, or assemblies. See FMs 7-20, 7-30, and 71-123.
attrition (JP 1-02, NATO)—Reducing a force's effectiveness through personnel and materiel loss. See FMs 7-8, 7-20, 7-30, 71-123, and 100-5.
authorized stockage list (ASL) (Army)—A list of items from all classes of supply authorized to be stocked at a specific echelon of supply. See FMs 10-1 and 100-10.
automatic resupply (JP 1-02)—A resupply mission fully planned before inserting a special operations team into the operations area that occurs at a prearranged time and location, unless the operating team changes it after insertion. (See also emergency resupply.)

backhaul—Using transportation assets that, having deposited their primary loads, are available to remove personnel and materiel from that location to another location en route to their return destination. See FMs 19-1 and 100-10.
base (JP 1-02, NATO)—A locality from which operations are projected or supported. An area or locality containing installations that provide logistics or other support. (DOD) Home airfield or home carrier. (Army)—A group of units or activities within a defined, defensible perimeter with specific access control points and traffic control. All units or activities are under a single commander's operational control (OPCON) for security operations. See FMs 100-10 and 100-15.
basic load (JP 1-02, NATO)—The quantity of supplies required to be on hand within, and that can be moved by, a unit or formation. It is expressed according to the unit or formation's wartime organization and maintained at the prescribed levels. (Army)—The quantity of supplies and ammunition stored and carried under an organization's control that a higher headquarters determines based on the mission and threat analysis. See FMs 6-20, 7-7, 7-20, 71-123, and 100-10.
battle damage assessment and repair (BDAR) (NATO: battle damage repair)—Any expedient action that returns a damaged item or assembly to a mission-capable or limited mission-capable condition. Repairs are often temporary. (See also cannibalize.) See FMs 63-2 and 100-9.
breakbulk (B/B) cargo—Cargo that is not shipped in a container. See FM 10-1.
brigade support area (BSA) (Army)—A designated area in which CSS elements from the division support command (DISCOM) and corps support command (COSCOM) provide logistics support to a brigade. The forward support battalion (FSB) manages the terrain and unit locations. Examples of units located in the BSA are the FSB command post (CP); brigade rear CP; FSB supply company CP; class I, II, IV, and VII points; ATP; forward support medical company; class VIII point; medical clearing station; air defense artillery battery(-); and forward signal platoon(-). See FMs 7-30, 8-10-1, and 63-20.
buildup (JP 1-02, NATO)—The process of attaining the prescribed strength of units and prescribed levels of vehicles, equipment, stores, and supplies. Also may be applied to the means of accomplishing this process. See FMs 100-15 and 100-17.
bulk cargo (JP 1-02)—That which is generally shipped in volume where the transportation conveyance is the only external container such as liquids, ore, or grain. (Army)—Cargo with dimensions less than oversized cargo and cargo that fits on a 463L aircraft pallet. See FMs 55-10 and 100-10.
bulk petroleum product (JP 1-02, NATO)—A liquid petroleum product transported by various means and stored in tanks or containers having an individual fill capacity greater than 250 liters. See FMs 10-67, 63-2, 63-20, 63-21, and 100-10.

bulk storage (JP 1-02)—Storing supplies and equipment in large quantities in a warehouse, usually in original containers, as distinguished from bin storage. Storing liquids, such as petroleum products, in tanks as distinguished from drum or packaged storage. (See also bulk cargo and bulk petroleum product.) See FMs 63-2, 63-20, 63-21, and 100-10.
cannibalize (JP 1-02, NATO)—Removing serviceable parts from one item of equipment to install them on another item of equipment. (Army)—The authorized removal of parts or components from economically unrepairable or disposable items or assemblies and making them available for reuse. (See also BDAR.) See FMs 63-2, 63-2-1, 63-6, 63-20, 63-21, and 71-123.
casualty (JP 1-02)—Any person lost to an organization by having been declared dead, duty status/whereabouts unknown, missing, ill, or injured. See FMs 8-10, 8-10-1, 8-10-6, 8-55, 12-6, and 16-1.
casualty collection point (CCP)—A specific location where casualties are assembled to transport them to an MTF; for example, a company aid post. See FM 8-55.
casualty transport—Moving casualties by nonmedical transportation assets without en route medical care.
categories of supply—Regarding how supplies are requested and issued, there are three categories of supply—scheduled, demanded, and regulated.

- *Scheduled supplies* are those for which we can reasonably predict requirements. Normally, users do not need to submit requisitions to replenish scheduled supplies. Requirements are based, for the most part, on troop strength, equipment density, forecasts, and/or daily usage factors. Scheduled supplies are normally shipped to users based on preplanned distribuiton schemes. Supply classes I, III (bulk), V, and VI are normally treated as scheduled supplies.

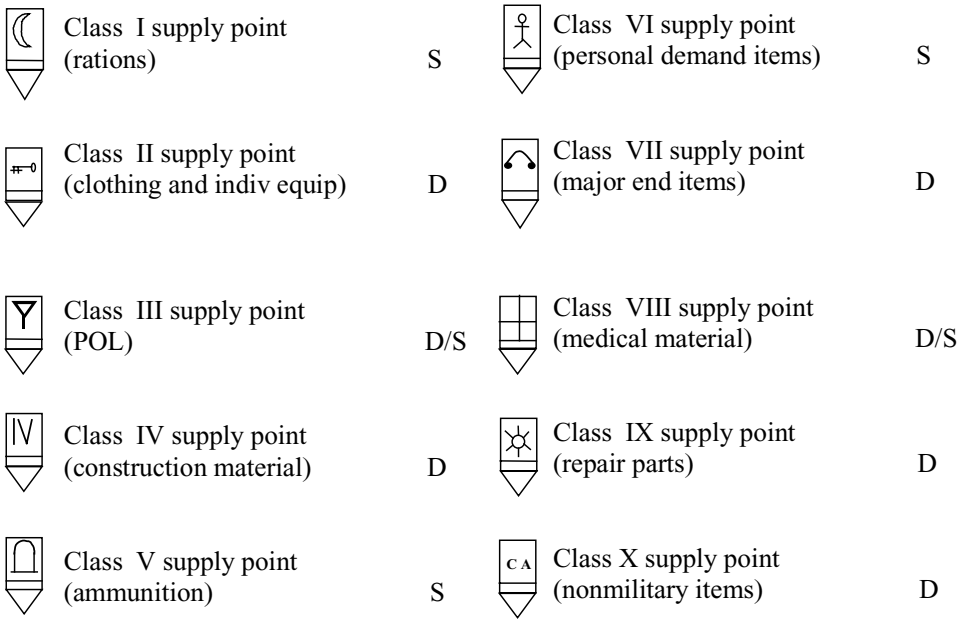
—Class I and VI (subsistence and personal demand items) requirements are based on troop strength.

—Class III (bulk) requirements are based on long-range forecasts, equipment densities, and historical usage factors (experience).

—Class V (ammunition) requirements are based on densities of authorized weapons and intensity of mission(s).

- *Demanded supplies* require a requisition. Items in supply classes II, III (packaged), IV, VII, and IX are considered demanded supplies.
- *Regulated supplies* can be scheduled or demanded, but the commander must closely control these supplies because of scarcity, high cost, or mission need. Any item or group of items can be designated as regulated, but normally, some items in supply classes II, III (bulk), IV, V, and VII are regulated. If an item is regulated, the commander who so designates it must approve its release before issue. Items designated as command regulated are identified in operation plans (OPLANs) and operation orders (OPORDs) that are issued during the period of time the items are regulated.

checkpoint (JP 1-02, NATO)—1. A predetermined point on the surface of the earth used as a means of controlling movement, a registration target for fire adjustment, or a reference for location. 2. Center of impact; a burst center. 3. Geographical location on land or water above which the position of an aircraft in flight may be determined by observation or by electrical means. 4. A place where military police (MPs) check vehicular or pedestrian traffic to enforce circulation control measures and other laws, orders, and regulations. (Army)—1. A predetermined point on the ground used to control movement and tactical maneuver. 2. A place where MPs set up to provide information and prevent illegal actions or actions that aid the enemy, including inspecting vehicles and cargo. See FMs 19-1, 19-4, 71-123, and 100-103.
classes of supply—The Army has divided supplies into 10 classes for planning and administrative purposes. They are further divided into subclasses that are denoted by adding a letter designation to the Roman numeral supply class designator. For example, class III-A is the descriptor for all petroleum and chemical products used to support aircraft. Symbols for each class and whether each is scheduled (S) or demanded (D) follow:



collection point—A point designated to assemble casualties, stragglers, not operationally ready equipment and materiel, salvage, prisoners, and so on for treatment, classification, sorting, repair, or further movement to collecting stations or rear facilities and installations. (See also aid station.) See FMs 7-10, 7-20, 7-30, 8-10-1, 8-10-6, 63-2, 63-2-1, 63-6, 63-20, 63-21, 71-100, and 71-123.

combat health support (CHS)—All services performed, provided, or arranged to promote, improve, conserve, or restore the mental or physical well-being of personnel in the Army and, as directed, for other services, agencies, and organizations. See FM 8-10-1.

combat load (CL)—Those quantities of all classes of supply a unit keeps by to sustain its operation in combat for a prescribed number of days. Combat loads must be able to be moved into combat in one lift using organic transportation. See FM 10-1.

combat service support (CSS) (JP 1-02)—The essential capabilities, functions, activities, and tasks necessary to sustain all elements of operating forces in theater at all levels of war. Within the national and theater logistic systems, it includes but is not limited to that support service forces render to ensure the supply, maintenance, transportation, health services, and other services aviation and ground combat troops require to permit them to accomplish their missions in combat. CSS encompasses those activities at all levels of war that produce sustainment to all operating forces on the battlefield. (Army)—CSS also includes those activities in stability and support operations that sustain all operating forces. The CSS branches and functions follow: Adjutant General (AG) Corps, Acquisition Corps, Chaplain Corps, Finance Corps, Judge Advocate General Corps, Medical Corps, Ordnance Corps, Transportation Corps, and Quartermaster Corps. See FMs 8-10, 10-1, 100-5, and 100-10.

communications zone (COMMZ) (JP 1-02, NATO)—The rear part of the theater of operations [behind but contiguous to the combat zone (CZ)] that contains the lines of communications (LOCs), establishments for supply and evacuation, and other agencies required to immediately support and maintain the field forces. (See also rear area.) See FM 100-7.

constraint (Army)—Restrictions a higher command places on a command to dictate an action or inaction, thus restricting the freedom of action the subordinate commander has to plan a mission by stating things that must or must not be done. See FMs 71-100, 100-15, and 101-5.

consumption rate (JP 1-02, NATO)—The average quantity of an item consumed or expended during a given time interval, expressed in quantities by the most appropriate unit of measurement per applicable stated basis. See FMs 10-1, 63-20, 63-21, and 100-10.

container delivery system (CDS)—A system for aerially delivering supplies and small items of equipment from low or high altitudes into a small area. (See also bulk cargo.) See FM 55-12.

controlled exchange (Army)—Removing serviceable parts, components, or assemblies from unserviceable, economically repairable equipment and immediately reusing them to restore a like item of equipment to a combat operable or serviceable condition. (See also cannibalize.) See FMs 10-1, 63-2-1, 63-20, 63-21, and 100-10.
controlled supply rate (CSR) (Army)—The rate of ammunition consumption that can be supported, considering availability, facilities, and transportation. t is expressed in rounds per unit, individual, or vehicle per day. The Army service component commander (ASCC) announces the CSR for each item of ammunition, and in turn, each subordinate tactical unit's commander announces a CSR to his commanders at the next lower levels. A unit may not draw ammunition in excess of its CSR without authority from its next higher headquarters. [See also required supply rate (RSR).] See FMs 10-1, 63-20, 63-21, 71-100, 100-10, 100-15, and 701-58.
control point (JP 1-02, NATO)—1. A position along a route of march at which men are stationed to give information and instructions for regulating supply or traffic. 2. A position marked by a buoy, boat, aircraft, electronic device, conspicuous terrain feature, or other identifiable object that receives a name or number and is used as an aid to navigate or control ships, boats, or aircraft. 3. In making mosaics, a point located by ground survey with which a corresponding point on a photograph is matched as a check. See FMs 5-36, 5-100, 7-92, 21-18, 71-100, and 100-15.
controls—Actions taken to eliminate hazards or reduce their risk.
convoy (JP 1-02, NATO)—A number of merchant ships or naval auxiliaries, or both, usually escorted by warships and/or aircraft, or a single merchant ship or naval auxiliary under surface escort, assembled and organized to travel together. A group of vehicles organized to control and move, with or without escort protection. (Army)—A group of vehicles that moves over the same route at the same time and under one commander. (See also march column.) See FMs 55-2, 55-10, and 55-30.
coordination (Army)—Exchanging information to inform and integrate, synchronize, and deconflict operations. Coordination is not necessarily a process of gaining approval but is most often used to mutually exchange information.

days of supply (DOS) (JP 1-02—Normally used to express the amount of supplies pre-positioned in an AO or in a storage area. (See also CSR.) See FMs 7-20, 63-20, 71-100, 71-123, 100-10, and 100-15.
debarkation (JP 1-02)—Unloading troops, equipment, or supplies from a ship or aircraft. (See also embarkation.) See FM 55-12.
deployment (Army)—1. Moving forces within AOs. 2. Positioning forces into a formation for battle. 3. Relocating forces and materiel to desired AOs. 4. Deployment encompasses all activities from origin or home station through destination, specifically including intracontinental United States, intertheater, and intratheater movement legs, and staging and holding areas. 5. Those activities required to prepare and move a force and its sustainment equipment and supplies to the AO to respond to a crisis or natural disaster. See FMs 55-12, 71-100, 100-5, 100-15, and 100-17.
depot (JP 1-02)—**supply**—An activity for receiving, classifying, storing, accounting, issuing, maintaining, procuring, manufacturing, assembling, researching, salvaging, or disposing of materiel. **personnel**—An activity for receiving, processing, training, assigning, and forwarding personnel replacements. (See also classes of supply and CSS.) See FM 10-1.
direct support (DS) (JP 1-02)—A mission requiring a force to support another specific force and authorizing it to answer directly the supported force's request for assistance. (NATO)—The support a unit or formation provides that is not attached to, or under command of, the supported unit or formation but is required to give priority to the support that unit or formation requires. [See also general support (GS).] See FMs 6-20, 7-30, 71-100, 71-123, and 100-15.
direct support unit (DSU)—A unit providing supply and maintenance support directly to a using or consuming unit.
distribution point (JP 1-02, NATO)—A point at which supplies and/or ammunition a division or other unit obtains from supporting supply points are broken down and distributed to subordinate units. Distribution points usually carry no stocks; items drawn are issued completely as soon as possible. See FM 10-1.
distribution system (JP 1-02)—That complex of facilities, installations, methods, and procedures designed to receive, store, maintain, distribute, and control the flow of military materiel between the point of

receipt into the military system and the point of issue to using activities and units. See FMs 10-1 and 100-10.
drop (JP 1-02, NATO)—In artillery and naval gunfire support, a correction an observer/spotter uses to indicate that a decrease in range along a spotting line is desired. (Army)—A parachute jump, individual or in mass, or supply delivery by parachute from an aircraft in flight, or the act of making such a jump or delivery. See FMs 6-20, 7-90, 23-1, 71-100-2, and 90-26.
drop zone (DZ) (JP 1-02, NATO)—A specific area upon which airborne troops, equipment, or supplies are airdropped. (See also drop.) See FMs 7-8, 7-20, 7-30, 71-100, and 90-26.

echelon (JP 1-02, NATO)—1. A subdivision of a headquarters (HQ); i.e., forward echelon, rear echelon. 2. A separate level of command. Compared to a regiment, a division is a higher echelon; a battalion is a lower echelon. 3. A fraction of a command in the direction of depth to which a principal combat mission is assigned; i.e., attack echelon, support echelon, reserve echelon. 4. A formation in which its subdivisions are placed one behind another, with a lateral and even spacing to the same side. See FMs 7-7, 7-8, 7-10, 7-20, 7-30, 10-1, 17-95, 71-123, 100-5, 100-10, and 100-15.
echeloned displacement (JP 1-02, NATO)—A unit moving from one position to another without discontinuing its primary function. (DOD) Normally, the unit divides into two functional elements (base and advance) and while the base continues to operate, the advance element displaces to a new site where, after it becomes operational, the base element joins. (Army)—A movement with one element as the base of fire that covers the moving unit's movement to the next position; it is used in both offensive and defensive operations. See FMs 6-20 (series), 7-7, 7-8, 7-20, 7-30, 17-95, 71-123, 71-100, and 100-15.
echelon formation—A unit formation with subordinate elements arranged on an angle to the left of the direction of attack or to the right (echelon left; echelon right). This formation provides firepower forward and to the flank of the direction of the echelon. It facilitates control in open areas. It provides minimal security to the opposite flank of the direction of the echeloning. See FMs 7-7, 7-8, and 7-20.
echeloning—Organizing and prioritizing units for movement. Echelons are often divided into elements such as advance parties, initial combat forces, follow-on forces, and closure forces. See FM 71-100.
echelonment—Organizing elements within a force into three echelons—the assault echelon, the follow-on echelon, and the rear echelon. See FMs 7-7, 7-8, 7-10, 7-20, 7-30, 17-95, 71-100, 71-100-2, 71-123, 90-26, and 100-15.
echelons above corps (EAC) (Army)—Army HQ and organizations that provide the interface between the theater commander (joint or multinational) and the corps for operational matters. See FM 100-5.
embarkation (JP 1-02, NATO)—The process of putting personnel and/or vehicles and their associated stores and equipment into ships and/or aircraft. (See also APOE.) See FMs 20-12 and 55-12.
emergency resupply (JP 1-02)—A resupply mission that occurs based on a predetermined set of circumstances and time interval should radio contact not be established or, once established, is lost between a special operations tactical element and its base. (See also automatic resupply.)
evacuation (JP 1-02)—1. The process of moving any wounded, injured, or ill person to and/or between medical treatment facilities (MTFs). 2. **C**learing personnel, animals, or materiel from a given locality. 3. The controlled process of collecting, classifying, and shipping unserviceable or abandoned materiel, US and foreign, to appropriate reclamation, maintenance, technical intelligence, or disposal facilities. (Army) 1. The Department of State, Department of Defense, or appropriate military commander ordering or authorizing noncombatants to depart from a specific area. This refers to their movement from one area to another in the same or different countries. Unusual or emergency circumstances cause evacuations, and apply equally to command or noncommand-sponsored family members. 2. A CSS function that involves moving recovered materiel, personnel, casualties, bodies, prisoners of war (PWs), and so forth, from a forward collection point along a main supply route (MSR) to a rearward, usually higher unit, exchange point, or facility. (See also collection point and medical evacuation.) See FMs 1-111, 1-112, 7-10, 7-20, 7-30, 8-10-6, 17-95, 17-100, 71-123, 100-5, and 100-15.
explosive ordnance disposal (EOD) (JP 1-02, NATO)—Detecting, identifying, evaluating onsite, rendering safe, recovering, and disposing of unexploded explosive ordnance. It may also include explosive ordnance that has become hazardous through damage or deterioration. See FM 5-250.

field services—Essential services to enhance a soldier's quality of life during operations. They include food preparation, water purification, mortuary affairs (MA) support, airdrop support, laundry and shower services, and cloth and light textile repair. See FM 10-1.
field trains—The CSS portion of a unit at company, battalion, and brigade level that is positioned in the BSA with the forward support battalion (FSB) and other support elements pushed forward from the division main support battalion (MSB). At company level, supply and mess teams normally will be located in the battalion field trains. A battalion's field trains may include mess teams and a portion of the support platoon's supply section; a maintenance element; ammunition; and petroleum, oils, and lubricants (POL) elements not forward in the combat trains. (See also unit trains.) See FMs 7-30, 7-123, 63-2, and 63-20.
forward arming and refueling point (FARP)—A temporary facility that an aviation commander organizes, equips, and deploys. It is normally located in the main battle area (MBA) closer to the AO than the aviation unit's CSS area. It provides the fuel and ammunition necessary to employ aviation maneuver units in combat. It permits combat aircraft to rapidly refuel and rearm simultaneously. See FMs 1-111, 7-30, 71-100, 100-15, and 100-103.
forward logistics element (FLE) (Army)—A multifunctional FLE task-organized to support fast-moving offensive operations, early phases of contingency operations, and units geographically separated from normal support channels. The FLE operates out of an FLB. See FM 63-2-1.
forward operations base (FOB) (JP 1-02)—In special operations, a base usually located in friendly territory or afloat that is established to extend C^2 or communications or to provide support for training and tactical operations. Facilities may be established for temporary or longer-duration operations and may include an airfield or an unimproved airstrip, an anchorage, or a pier. An FOB may be the location of a special operations component HQ or of a smaller unit that a main operations base controls and/or supports. See FMs 71-100-3 and 100-25.
fully mission capable (FMC) (JP 1-02)—An aircraft's or training device's materiel condition indicating that it can perform all of its missions. See FMs 63-2, 63-2-1, 63-6, 63-20, and 63-21.

general support (GS) (JP 1-02, NATO)— hat support given to the supported force as a whole and not to any particular subdivision thereof. (See also DS.) See FMs 6-20 series and 10-1.
graves registration (Army)—A subprogram of mortuary affairs (MA) whereby personnel search, recover, initially identify, and bury deceased personnel in temporary burial sites, maintain and care for burial sites, and process and disburse personal effects.

habitual association—The close and continuous relationship established between support elements and the combat units they support or between combat units that frequently are cross-attached to mutually understand operating procedures and techniques and to increase overall responsiveness.
highway regulation—Planning, routing, scheduling, and deconflicting the use of MSRs other routes to provide order, prevent congestion, enforce priorities, and facilitate movement control. (See also MSR and ASR.) See FMs 19-1 and 55-2.
holding area (Army)—A site located between AAs or FARPs and battle positions that attack helicopters may occupy for short periods of time while coordination is being made to move into those positions. It should provide good cover and concealment and an area for the aircraft to hover or land. See FMs 1-111, 1-112, and 1-116. The nearest covered and concealed position to the pickup zone or river crossing site where troops remain until time for them to move forward. See FMs 7-8, 7-10, 7-20, 7-30, 71-100-2, 71-100-3, and 90-13. A waiting area that forces use during traffic interruptions or deployment from an APOE or SPOE. See FMs 19-1 and 55-2.
hospital (JP 1-02)—A medical treatment facility (MTF) capable of providing inpatient care. It is appropriately staffed and equipped to provide diagnostic and therapeutic services as well as the necessary supporting services required to perform its assigned mission and functions. A hospital may, in addition, discharge a clinic's functions.
host nation (HN)—A nation that receives forces and/or supplies from allied or coalition nations and/or NATO organizations to locate or operate in, or transit through its territory. See FMs 100-5 and 100-20.
host nation support (HNS) (JP 1-02)—Civil and/or military assistance a nation renders to foreign forces within its territory during peacetime, crises or emergencies, or war based on agreements mutually concluded between nations. See FMs 100-5, 100-10, and 100-20.

infrastructure (JP 1-02, NATO)—A term generally applied to all fixed and permanent installations, fabrications, or facilities to support and control military forces. (Army)—The basic, underlying framework or features of a thing. In economics, basic resources, communications, industries, and so forth, upon which others depend. In insurgency, the organization (usually hidden) of insurgent leadership. See FMs 100-5 and 100-20.
intermediate staging base (ISB)—A logistics base established to support deploying units en route to an operation; the area established to ensure continuity of support. Using an ISB allows supported tactical and operational commanders time to gather additional intelligence on the AO and finalize plans following briefings and rehearsals. It provides time during which units may redistribute and finalize their accompanying loads. See FM 100-15.
interoperability (JP 1-02, NATO)—The ability of systems, units, or forces to provide services to and accept services from other systems, units, or forces and to use the services so exchanged to enable them to operate effectively together. (DOD) The condition achieved among communications-electronics (CE) systems or items of CE equipment when information or services can be exchanged directly and satisfactorily between them and/or their users. The degree of interoperability should be defined when referring to specific cases. See FMs 100-5 and 100-6.
in-transit visibility (ITV) (Army)—The ability to identify the location of resources at any moment in the distribution pipeline. See FMs 10-1 and 55-2.

line-haul—In highway transportation, a type of haul involving long trips over the road in which the portion of driving time is high in relation to the time consumed in loading and unloading. Line-haul usually involves one trip or a portion of a trip per operating shift of 10 hours, or 2 trips per day. See FMs 55-2 and 55-10.
line of communications (LOC) (JP 1-02)—All of the land, water, and air routes that connect an operating military force with a base of operations and along which supplies and military forces move. (See also COMMZ.) See FMs 10-1, 100-5, 100-7, 100-10, and 100-15.
local haul—In highway transportation, a type of haul characterized by short driving time in relation to loading and unloading time and normally involves four or more trips per day. See FMs 55-2 and 55-10.
lodgment area (JP 1-02)—A designated area or hostile or potentially hostile territory that, when seized and held, ensures troops and materiel continuously land (build up) and provides sufficient maneuver space to build up combat power to resolve the crisis rapidly and decisively. See FMs 1-111, 7-7, 7-8, 7-10, 7-20, 7-30, 17-15, 17-95, 71-100, 71-100-2, 71-100-3, 71-123, 100-15, and 100-20.
logistics (JP 1-02, NATO)—The science of planning and carrying out force movement and maintenance. In its most comprehensive sense, those aspects of military operations that deal with designing and developing, acquiring, storing, moving, distributing, maintaining, evacuating, and disposing of materiel; moving, evacuating, and hospitalizing personnel; acquiring or constructing, maintaining, operating, and disposing of facilities; and acquiring or furnishing services. (See also CSS.) See FMs 10-1 and 100-10.
logistics base—A principal or supplementary base of support; a locality containing installations that provide logistics or support.
logistics package (LOGPAC)—Grouping multiple classes of supply and supply vehicles under a single convoy commander's control. Daily LOGPACs contain a standardized supply allocation. Special LOGPACs can also be dispatched as needed. See FM 71-123.
logistics preparation of the battlefield (LPB) (Army)—All actions CSS takes to maximize the means of supporting commanders' plans.
logistics-over-the-shore operations (LOTS)—Loading and unloading ships without fixed port facilities in friendly or undefended territory and, in time of war, during phases of theater development in which there is no enemy opposition.
logistics release point (LRP)—The point along the supply route where the unit first sergeant or unit guide takes control of a company logistics package (LOGPAC). The point along the supply route where the supported unit meets the supporting unit to transfer supplies. See FM 55-30.

main supply route (MSR) (JP 1-02, NATO)—The route or routes designated within an AO upon which most of the traffic flows that supports military operations.

maintenance (materiel) (JP 1-02)—1. All action taken to retain materiel in a serviceable condition or to restore it to serviceability. It includes inspecting, testing, servicing, classifying (as to serviceability), repairing, rebuilding, and reclaiming. 2. All supply and repair action taken to keep a force in condition to carry out its mission. 3. The routine recurring work required to keep a facility (plant, building, structure, ground facility, utility system, or other real property) in such condition that it may be continuously used at its original or designed capacity and efficiency for its intended purpose.
maintenance collection point (MCP)—A point established to collect equipment awaiting repair, controlled exchange, cannibalization, or evacuation. The user or direct support maintenance (DSM) units may operate it. [See also unit maintenance collection point (UMCP).]
maintenance status (JP 1-02)—A nonoperating condition, deliberately imposed, with adequate personnel to maintain and preserve installations, materiel, and facilities in such a condition that they may be readily restored to operable condition in a minimum time by assigning additional personnel and without extensive repair or overhaul. That condition of materiel that is in fact, or is administratively classified as, unserviceable, pending completion of required servicing or repairs. (Army)—A condition of materiel readiness that reports the operational readiness level for a piece of equipment. See FM 63-2.
maintenance support team (MST)—A tailored DS team that colocates with a unit maintenance element for a designated period. See FM 63-2.
march column—A group of two to five serials using the same route for a single movement, organized under a single commander for planning, regulating, and controlling. (See also march serial, march unit, and movement order.) See FMs 55-30 and 101-5.
march serial—Subdividing a march column into groups of two to five march units using the same route for a single movement, organized under a single commander for planning, regulating, and controlling. (See also march column, march unit, and movement order.) See FMs 55-30 and 101-5.
march unit—The smallest subdivision of a march column. A group of normally no more than 25 vehicles using the same route for a single movement, organized under a single commander for planning, regulating, and controlling. (See also march column, march serial, and movement order.) See FMs 55-30 and 101-5.
marshalling (JP 1-02, NATO)—The process by which units participating in an amphibious or airborne operation group together or assemble when feasible or move to temporary camps in the vicinity of embarkation points, complete combat preparations, or prepare for loading. The process of assembling, holding, and organizing supplies and/or equipment, especially transportation vehicles, for onward movement. See FMs 71-100-3 and 90-26.
marshalling area—1. The general area in which unit preparation areas and departure airfields may be located and from which movement is initiated. 2. An area located adjacent to strategic air and seaports of embarkation and debarkation the Army service component commander (ASCC) controls in which units configure forces, sustainment, and materiel for onward movement to staging areas or tactical assembly areas (TAAs). 3. In amphibious operations, the designated area in which, as part of the mounting process, units reorganize for embarkation; prepare vehicles and equipment to move directly to embarkation areas; and other units other units provide housekeeping facilities for those troops. See FM 100-17.
marshalling plan—An airborne operational plan by which units of the force complete final combat preparation, move to departure airfields, and load for takeoff. It begins when force elements are literally "sealed" in marshalling areas and terminates at loading. See FMs 100-17 and 101-5.
materiel release confirmation (JP 1-02)—A shipping/storage activity notifying a materiel release order (MRO) originator of positive action taken on the order. It will also be used with appropriate shipment status document identifier codes as a reply to a follow-up the inventory control point will initiate.
materiel release order (MRO) (JP 1-02)—An order an accountable supply system manager (usually an inventory control point or accountable depot/stock point) issues, directing a nonaccountable activity (usually a storage site or materiel drop point) within the same supply distribution complex to release and ship materiel.
medical care echelon—This describes the five treatment levels within the military system. Each echelon has the same capabilities as the echelon before it but adds a new treatment capability that distinguishes it from the previous echelon. The five echelons are echelon I—unit-level or immediate lifesaving measures; echelon II—a medical unit that adds dental, laboratory, X-ray, and patient holding capability; echelon III—combat support hospitals (CSHs) that add the capability to perform surgery; echelon IV—general

hospitals and field hospitals that add staffing and equipment for general and specialized medical and surgical treatment; and echelon V—CONUS-based hospitals that can provide the most specialized and long-term care possible. See FMs 8-10, 8-10-1, 8-10-4, 8-10-14, 8-10-24, 8-51, and 8-55.
medical evacuation—Moving patients quickly and efficiently while providing enroute medical care to and between MTFs. See FMs 8-10 and 8-10-6.
medical evacuees (JP 1-02)—Personnel who are wounded, injured, or ill and must be moved to or between medical facilities. See FMs 8-10, 8-10-1, 8-10-4, 8-10-14, 8-10-24.
medical threat (Army)—The composite of all ongoing or potential enemy actions and environmental conditions that reduce the soldier's performance. The soldier's reduced effectiveness results from sustained wounds, injuries, or diseases. See FMs 8-10, 8-10-8, 8-55.
medical treatment facility (MTF) (JP 1-02)—A facility established to furnish medical and/or dental care to eligible individuals. See FMs 8-10, 8-10-1, 8-10-4, 8-10-14, 8-10-24.
mission, enemy, troops, terrain and weather, time available, and civilians (METT-TC)—The phrase or acronym used to describe the factors we must consider while planning or executing a tactical operation. See FMs 100-10-2 and 101-5. (USMC)—mission, enemy, terrain and weather, troops and support available, and time available. Example considerations follow:

- **mission**—the who, what, when, where, and why that must be accomplished.
- **enemy**—current information concerning the enemy's strength, location, disposition, activity, equipment, and capability and determining the enemy's probable course of action.
- **troops** (and support available)—friendly forces' quantity, level of training, and psychological state, including weapon system and critical equipment availability.
- **terrain (includes weather)**—analyzing vegetation, soil type, hydrology, climatic conditions, and light data to determine the impact the environment can have on current and future operations for both enemy and friendly operations.
- **time available**—the time available to plan, prepare, and execute operations for both enemy and friendly forces.
- **civilians**—press, nongovernment agencies, refugees, and civilians on the battlefield.

mission-configured load (MCL) (Army)—A planned package of ammunition or other supplies that are transported as a single load to support a type of unit or weapon system. See FM 9-6.
mode of transport (JP 1-02)—The various modes used for a movement. For each mode, there are several means of transport. They include inland surface transportation (rail, road, and inland waterway), sea transport (coastal and ocean), air transportation, and pipelines. See FM 55-30.
modularity—A concept to provide force elements that are interchangeable, expandable, and tailorable to meet changing missions and needs. Modular units will combine the assets required to provide a support function or group of related functions. A module can be sent to support a deploying force without adversely affecting the parent unit's ability to function at a reduced level.
mortuary affairs (MA)—A broadly based military program to care for and process deceased personnel. It consists of three subprograms: the current death program, the graves registration program, and the concurrent return program. (See also graves registration.) See FMs 10-63 and 100-10.
movement control (JP 1-02)—Planning, routing, scheduling, and controlling personnel and cargo movements over LOCs; also an organization responsible for these functions. (Army)—Organizations responsible for these functions are movement control teams (MCTs), movement control centers (MCCs), and movement control activities. See FM 55-10.
movement credit (JP 1-02, NATO)—The allocation granted to one or more vehicles to move over a controlled route in a fixed time according to movement instructions.
movement formation—An ordered arrangement of troops and/or vehicles for a specific purpose. An ordered arrangement of two or more units, aircraft, or ships proceeding together under a commander. Types of formations include box, column, diamond, line, vee, wedge, and echelon (right or left). See FMs 1-111, 1-112, 7-7, 7-8, 7-10, 7-20, 7-30, 17-95, 71-100, and 71-123.

movement order (JP 1-02)—An order a commander issues covering the details to move a command. See FM 101-5.
movement requirement (JP 1-02)—A stated movement mode and time-phased need for transporting units, personnel, and/or materiel from a specified origin to a specified destination.
movement schedule (JP 1-02)—A schedule developed to monitor or track a separate entity whether it is a force requirement, cargo or personnel increment, or lift asset. The schedule reflects specific lift resource assignments (such as an aircraft or ship) that will be used to move the personnel and cargo included in a specific movement increment. Arrival and departure times at ports of embarkation (POEs), etc., are detailed to show a flow and workload at each location. Movement schedules are detailed enough to support plan implementation. See FMs 55-10, 71-123, and 101-5.
movement table (JP 1-02, NATO)—A table giving detailed instructions or data for a move. When necessary it will be qualified by the words road, rail, sea, air, etc., to signify the type of movement. It is normally issued as an annex to a movement order or instruction. (See also movement order.) See FMs 55-10, 71-123, and 101-5.

not mission capable, maintenance (NMCM) (JP 1-02)—Materiel condition indicating that systems and equipment are not capable of performing any of their assigned missions because of maintenance requirements. See FM 63-2.
not mission capable, supply (NMCS) (JP 1-02)—Materiel condition indicating that systems and equipment are not capable of performing any of their assigned missions because of maintenance work stoppage due to a supply shortage. See FM 63-2.

operational readiness float (ORF)—A quantity of selected class II and VII items DSM units can use to exchange with supported units if a like item cannot be repaired quickly. See FM 63-2-1.
operational reserve (JP 1-02, NATO)—An emergency reserve of men and/or materiel established to support a specific operation. See FMs 100-5 and 100-15.
operating tempo (OPTEMPO)—1. An operation's or operations' pace. The OPTEMPO includes all of the activities the unit is conducting. OPTEMPO can be a single activity or a series of operations. 2. The mileage a vehicle or an aircraft may accumulate during a fiscal year (FY) based on budgetary guidance. See FMs 1-111, 6-20, 7-20, 7-30, 17-95, 71-100, 71-123, 100-15, and 101-5.
order and shipping time (JP 1-02)—The time elapsed between initiating a stock replenishment action for a specific activity and when that activity receives the materiel. Order and shipping time applies only to materiel within the supply system, and it is composed of the distinct elements, order time and shipping time.

packaged petroleum product (JP 1-02)—A petroleum product (generally a lubricant, oil, grease, or specialty item) a manufacturer normally packages and is procured, stored, transported, and issued in containers having a fill capacity of 55 US gallons (or 45 Imperial gallons or 205 liters) or less.
palletized unit load (JP 1-02, NATO)—The quantity of any item, packaged or unpackaged, that is arranged on a pallet in a specified manner and securely strapped or fastened thereto so the whole is handled as a unit.
planning factor (JP 1-02, NATO)—A multiplier used in planning to estimate the amount and types of effort involved in a contemplated operation. Planning factors are often expressed as rates, ratios, or lengths of time. See FMs 101-5, 101-10-1, and 101-10-2.
port of debarkation (POD) (JP 1-02)—The geographic point at which cargo or personnel are discharged. May be an APOD or seaport of debarkation (SPOD). For unit requirements, it may or may not coincide with the destination. [See also port of embarkation (POE).] See FM 55-10.
port of embarkation (POE) (JP 1-02)—The geographic point in a routing scheme from which cargo or personnel depart. May be a seaport or aerial port from which personnel and equipment flow to the POD. For unit and nonunit requirements, it may or may not coincide with the origin. (See also POD.) See FM 55-10.
pre-position (JP 1-02, NATO)—To place military units, equipment, or supplies at or near the point of planned use or at a designated location to reduce reaction time, and to ensure timely support of a specific force during an operation's initial phases. See FM 100-5.

pre-positioned supplies—Supplies located at or near the point of planned use or at other designated locations to reduce reaction time and to ensure resupply.
prescribed load—The quantity of combat-essential supplies and repair parts (other than ammunition) major commanders authorize to be on hand in units and that individuals or unit vehicles carry. The prescribed load is continuously reconstituted as used.
preventive maintenance (JP 1-02)—The care and servicing personnel perform to maintain equipment and facilities in satisfactory operating condition by systematically inspecting, detecting, and correcting incipient failures either before they occur or before they develop into major defects. (See also preventive maintenance checks and services.)
preventive maintenance checks and services (PMCS)—Operator-level maintenance conducted before, during, and after equipment operations to identify actual and potential problems and to make repairs quickly to minimize equipment downtime. See FMs 1-111, 7-90, 7-91, 17-12, 23-1, and 63-20.
preventive medicine (PM)—Measures to counter the medical threat and prevent disease and injury.
prime mover (JP 1-02)—A vehicle, including heavy construction equipment, that has military characteristics; is designed primarily for towing heavy, wheeled weapons; and frequently provides the facilities to transport the crew of, and the ammunition for, the weapon.
priority of effort—The element the commander designates to receive a higher concentration of support assets for the duration that it remains the priority of effort. See FM 101-5.
priority of support—Priorities the commander sets in his concept of operations and during execution to ensure that subordinate elements receive combat support (CS) and CSS according to their relative importance in accomplishing the mission. See FM 100-10.
pull—The need for an information or supply user to request each item individually and wait for the higher unit to furnish the items or fill the request.
push—In intelligence and communications, broadcasting information to multiple stations simultaneously without them requesting or interrogating the host system. In logistics, delivering a predetermined amount of supplies to a user as scheduled without the user requesting them.

rear area (JP 1-02)—For any particular command, the area extending forward from its rear boundary to the rear of the area assigned to the next lower level of command. Personnel primarily perform support functions in this area. (See also BSA.) See FMs 100-5, 101-5, 100-15, and 100-40.
rear command post (CP) (Army)—Those staff activities concerned primarily with force CSS, HQ administrative support, and other activities not immediately concerned with current operations. Typical representatives within the rear echelon are elements of the G1 and G4 sections, G5, AG, SJA, inspector general, surgeon, provost marshal, supporting military intelligence (MI) elements concerned with counterintelligence and PW interrogation activities, and the tactical air control party's tactical airlift representative. Normally rear CPs are near or collocated with CSS units (for example, the COSCOM).
rearming (JP 1-02)—1. An operation that replenishes the prescribed stores of ammunition, bombs, and other armament items for an aircraft, naval ship, tank, or armored vehicle, including replacing defective ordnance equipment to make it ready for combat service. 2. Resetting the fuze on a bomb or on an artillery, mortar, or rocket projectile so it will detonate at the desired time.
rearm, refuel, and resupply point—A designated point through which a unit passes where it receives fuel, ammunition, and other necessary supplies to continue combat operations. See FM 6-50.
rebuild (JP 1-02)—Restoring an item to a standard as nearly as possible to its original condition in appearance, performance, and life expectancy. See FMs 100-5 and 100-15.
reconstitution—Those actions that commanders plan and implement to restore units to a desired level of combat effectiveness commensurate with mission requirements and available resources. Reconstitution operations include regeneration and reorganization. See FMs 63-2, 71-100, 71-100-1/2/3, 100-9, 100-10, and 100-15.
reconstitution site (JP 1-02)—A location the surviving command authority selects as the site at which a damaged or destroyed HQ can reform from attack survivors and/or personnel from other sources predesignated as replacements.
recovery operations—Extricating damaged or disabled equipment and moving it to locations where repairs can be made. Recovery is the using unit's primary responsibility.

recovery site (JP 1-02)—In evasion and escape use, an area from which an evader or escapee can be evacuated.
redeployment (JP 1-02)—Transferring a unit, an individual, or supplies deployed in one area to another area or to another location within the area or to the zone of the interior (ZI) for further employment.
refuel on the move (ROM)—An operation to ensure fuel tanks on combat and fuel-servicing vehicles are full before they arrive in the unit's tactical assembly area (TAA). See FM 71-123.
regeneration—Rebuilding a unit through large-scale personnel, equipment, and supply replacement, including reestablishing or replacing essential C^2, and conducting mission-essential training for the newly rebuilt unit. See FM 100-9.
regulated item (JP 1-02, NATO)—Any item whose issue to a user is subject to an appropriate authority's control for reasons that may include cost, scarcity, its technical or hazardous nature, or operational significance.
release point (road) (RP) (JP 1-02)—A well-defined point on a route at which the elements composing a column return under their respective commanders' authority. Each element will continue its movement toward its own appropriate destination. [See also lane, march column, march serial, march unit, route, or start point (SP).] See FMs 1-111, 6-20, 7-20, 7-30, 17-95, 55-10, 71-100, 71-123, 100-15, 100-40, and 101-5.
religious ministry support (JP 1-02)—The entire spectrum of professional duties, to include providing for or facilitating essential religious needs and practices; pastoral care; family support programs; religious education; volunteer and community activities; and programs performed to enhance morale and moral, ethical, and personal well-being. Enlisted religious support personnel assist the chaplain in providing religious ministry support.
reorganization—Action taken to shift internal resources within a degraded unit to increase its level of combat effectiveness. See FMs 7-7, 7-8, 7-20 and 100-9.
repair (JP 1-02)—Restoring an item to serviceable condition through correcting a specific failure or unserviceable condition.
required supply rate (RSR) (ammunition) (JP 1-02)—In Army use, the amount of ammunition expressed in terms of rounds per weapon per day for ammunition items fired by weapons and in terms of other units of measure per day for bulk allotment and other items estimated to be required to sustain operations of any designated force without restriction for a specified period. Tactical commanders use this rate to state their requirements for ammunition to support planned tactical operations at specified intervals. The RSR is submitted through command channels. It is consolidated at each echelon, and each commander considers it in subsequently determining the CSR within the command. (See also CSR.) See FMs 9-6 and 100-10.
reserve (JP 1-02)—A portion of a body of troops kept to the rear or withheld from action at the beginning of an engagement that is available for a decisive movement. Military service members who are not in Active service but who are subject to call to active duty. That portion of an appropriation or contract authorization held or set aside for future operations or contingencies and in respect to which administrative authorization to incur commitments or obligations has been withheld. (Army)—That portion of a force withheld from action or uncommitted to a specific COA that will be available for commitment at the decisive moment. Its primary purpose is to retain flexibility through offensive action. See FMs 1-111, 6-20, 7-20, 7-30, 17-95, 71-100, 71-123, 100-15, and 101-5.
resupply (JP 1-02, NATO)—The act of replenishing stocks to maintain required levels of supply. See FM 100-10.
road clearance time (JP 1-02, NATO)—The total time a column requires to travel over and clear a section of the road. See FMs 55-10 and 55-30.
route (JP 1-02, NATO)—The prescribed course a unit will travel from a specific point of origin to a specific destination. See FMs 55-10, 55-30, and 100-103.
route capacity (JP 1-02, NATO)—The maximum vehicle traffic flow in one direction at the most restricted point on the route. The maximum number of metric tons that can move in one direction over a particular route in 1 hour. It is the product of the maximum traffic flow and the average payload of the vehicles using the route. See FM 55-10.

route classification (JP 1-02, NATO)—The classification assigned to a route using factors of minimum width and worst route type; least bridge, raft, or culvert military load classification; and obstructions to traffic flow. See FMs 5-36 and 17-95.
route reconnaissance—A form of reconnaissance focused along a specific LOC, such as a road, railway, or waterway, to provide new or updated information on route conditions and activities along the route. See FMs 5-36 and 17-95.

salvage (JP 1-02)—Property that has some value more than its basic material content but that is in such condition that it has no reasonable prospect of use for any purpose as a unit, and its repair or rehabilitation for use as a unit is clearly impractical. Saving or rescuing condemned, discarded, or abandoned property and materials contained therein to reuse, refabricate, or use for scrap.
scheduled supplies—Requirements that can be reasonably predicted. A scheduled supply normally will not require the user to submit a requisition for its replenishment. Requirements are based on troop strength, equipment density, forecasts, and daily usage factors. Supply classes I, III (bulk), V, and VI normally are treated as scheduled supplies. See FM 100-10.
seaport of debarkation (SPOD)—A marine terminal for sustained port operations at which personnel and materiel are discharged from ships. SPODs normally act as POEs on return passenger and retrograde cargo shipments.
seaport of embarkation (SPOE)—A marine terminal for sustained port operations at which personnel board and materiel is loaded aboard ships. SPOEs normally act as PODs on return passenger and retrograde cargo shipments.
slice (JP 1-02)—An average logistics planning factor used to obtain estimates of requirements for personnel and materiel. A personnel slice generally consists of the stated basic combatant elements' total strength, plus its proportionate share of all supporting and higher HQ personnel. (Army)—The normal apportionment of CS and CSS elements allocated to support a maneuver unit. (See also combat multiplier.)
split-based operation—Dividing logistics, staff, management, and command functions so that only those functions absolutely necessary are deployed, allowing some logistics, staff, management, and command functions to be accomplished from CONUS or another theater. See FMs 100-7 and 100-10.
standing operating procedure (SOP) (JP 1-02, NATO)—A set of instructions covering those features of operations that lend themselves to a definite or standardized procedure without loss of effectiveness. The procedure is applicable unless ordered otherwise. See FM 101-5.
start point (SP) (NATO, Army)—A well-defined point on a route at which vehicle movement begins to be under the movement commander's control. It is at this point that each element composing the column, at an appointed time, passes successively to form the column. In addition to the principal column SP, there may be secondary SPs for its different elements. (See also RP.) See FM 55-30.
supply control (JP 1-02)—The process by which a supply item is controlled within the supply system, including requisitioning, receiving, storing, controlling stock, shipping, dispositioning, identifying, and accounting.
supply discipline—A command responsibility to identify and redistribute excess materials, observe senior commander's priorities, and ensure subordinates operate within the legal boundaries of the logistics system.
supply point (JP 1-02, NATO)—Any point where supplies are issued in detail. (Army)—A location where supplies, services, and materials are located and issued. These locations are temporary and mobile, and normally occupied for up to 72 hours.
supply point distribution—A method of distributing supplies to the receiving unit at a supply point, railhead, or truckhead. The unit then moves the supplies to its own area using its own transportation.
supply site—A location where supplies, services, and materials are located or stored in a permanent or semipermanent facility.
support (JP 1-02)—1. The action a force takes to aid, protect, complement, or sustain another force in accordance with (IAW) a directive requiring such action. 2. A unit that helps another unit in battle. Aviation, artillery, or naval gunfire may be used as support for infantry. 3. A part of any unit held back at the beginning of an attack as a reserve. 4. An element of a command that assists, protects, or supplies other forces in combat. (See also DS and GS.)

support area—A designated area in which CSS elements and some staff elements locate to support a unit. (See also BSA.)
sustainment (JP 1-02)—Providing personnel, logistics, and other support required to maintain and prolong operations or combat until successful accomplishment or mission or national objective revision.

tactical road march—A rapid movement used to relocate units within a CZ to prepare for combat operations. Although contact with enemy ground forces is not anticipated, security against air attack, enemy special forces, and sympathizers is maintained, and the unit is prepared to take immediate action against an enemy threat. (See also march column, march serial, and march unit.) See FMs 7-20, 7-30, 17-95, 55-30, 71-100, 71-123, 100-15, 100-40, and 101-5.
terrain management—Allocating terrain by establishing AOs , designating AAs, and specifying locations for units and activities to deconflict activities that might interfere with each other; for example, ensuring artillery firing units are not placed within air corridors. In rear operations, the process includes grouping units together to form bases and designating a base cluster as necessary. See FMs 1-111, 6-20, 7-3, 7-30, 71-100, and 100-15.
theater (JP 1-02)—The geographical area outside the continental United States (OCONUS) for which a combatant command commander has received responsibility. See FMs 100-5 and 100-7.
theater airlift (intratheater airlift) (Army)—Moving personnel and materiel by aircraft within a theater of operations that provides air movement and delivers combat troops and supplies directly into objective areas through airlanding, extraction, airdrop, or other delivery techniques. Using air transport in DS of airborne assault, to carry air-transported forces, to supply tactical air, to evacuate casualties from forward airfields, and for special operations. See FMs 8-10-6, 100-5, and 100-17.
throughput (JP 1-02)—The average quantity of cargo and passengers that can pass through a port daily from arrival at the port to loading onto a ship or plane, or from the discharge from a ship or plane to the exit (clearance) from the port complex. Throughput is usually expressed in measurement tons, short tons (STON), or passengers. Reception and storage limitations may affect final throughput. See FM 100-10.
throughput distribution—Bypassing of one or more intermediate supply echelons in the supply system to avoid multiple handling. See FM 100-10.
time-phased force and deployment data (TPFDD) (JP 1-02)—The Joint Operation Planning and Execution System (JOPES) database portion of an OPLAN. It contains time-phased force data, nonunit-related cargo and personnel data, and movement data for the OPLAN, including in-place units; units to be deployed to support the OPLAN with a priority indicating the desired sequence for their arrival at the POD; routing forces to be deployed; movement data associated with deploying forces; estimates of nonunit-related cargo and personnel movements to be conducted concurrently with force deployment; and estimates of transportation requirements that must be fulfilled by common-user lift resources as well as those requirements that can be fulfilled by assigned or attached transportation resources. See JP 5-0.
time-phased force deployment list (TPFDL) (JP 1-02)—Appendix 1 to Annex A of the OPLAN. It identifies types and/or actual units required to support the OPLAN and indicates origin and PODs or ocean area. It may also be generated as a computer listing from the TPFDD.
total asset visibility (TAV)—The ability to identify equipment, supply, or personnel locations during in-processing and while in transit or in storage. See FM 55-12.
trafficability (JP 1-02, NATO)—The terrain's ability to bear traffic. It refers to the extent to which the terrain will permit any and/or all types of traffic to continuously move. See FMs 5-36, 34-3, and 34-130.
traffic control post—A place at which traffic is controlled either by MPs or by mechanical means. See FMs 17-95, 19-1, 55-10, 55-30, 71-100, 71-123, 100-15, and 100-40.
trailer transfer point (TTP)—A location where trailers are transferred from one carrier to another while en route. (See also LRP.) See FM 55-30.
trail party—The last march unit in a march serial, usually consisting of priority maintenance and recovery vehicles. [See also unit maintenance collection point (UMCP).] See FM 63-2.
train (Army)—A service force or group of service elements that provides logistics support; that is, the vehicles and operating personnel that furnish supply, evacuation, and maintenance services to a land force.
triage (JP 1-02, NATO)—Evaluating and classifying casualties for treatment and evacuation. It consists of immediately sorting patients according to type and seriousness of injury and likelihood of survival, and

establishing a priority for treatment and evacuation to ensure the greatest medical care for the largest number of personnel. See the FM 8-series.

unit distribution—A method of distributing supplies whereby the receiving unit is issued supplies in its own area with transportation the issuing agency furnishes.
unit maintenance collection point (UMCP)—A location or a series of locations a battalion maintenance platoon operates that is the nearest point to the combat unit to which equipment can be recovered. Here, limited parts are available, and some repairs can be performed. See FM 72-1.
unit trains—CSS personnel and equipment organic or attached to a force that provide support such as supply, evacuation, and maintenance services. Unit trains, whether or not echeloned, are under unit control, and no portion of them is released to a higher headquarters' control. Trains are normally echeloned into combat and field trains. (See also field trains.)